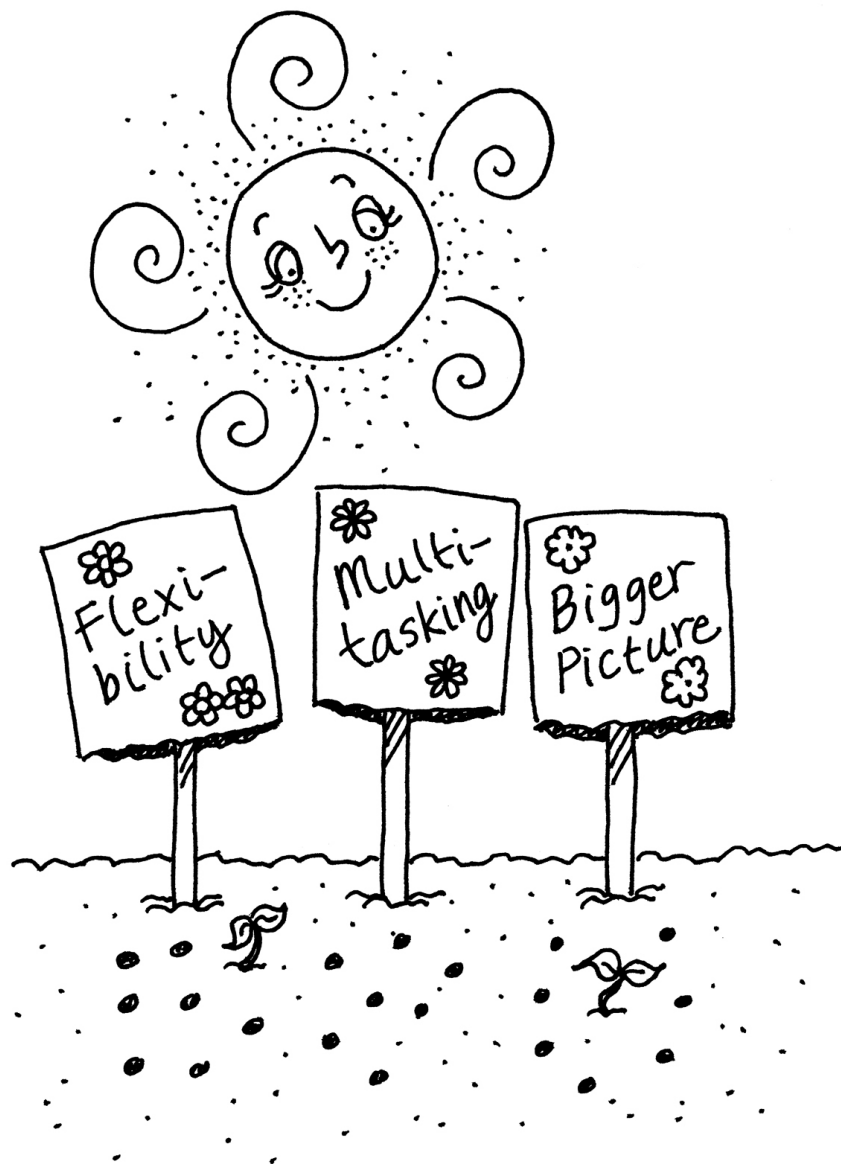


Cognitive Remediation Therapy for Anorexia Nervosa



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PREFACE

The manual contains a description of the cognitive remediation module for anorexia nervosa.

This intervention has been piloted with anorexia nervosa inpatients that have a long history of the illness. The therapists involved in delivering the intervention in the pilot study received weekly supervision from a Consultant Clinical Psychologist.

This intervention can be used as a pre-treatment programme for newly admitted patients on the inpatient ward or as an adjunct to other treatments in an outpatient setting.

We would appreciate your correspondence with the authors if you wish to make use of this manual and very much welcome your feedback.

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Many of the CRT exercises in this module are based on tasks from the Cognitive Shift module of a pioneering CRT programme for people with a diagnosis of schizophrenia by Ann Delahunty and colleagues (Delahunty et al, 1993; 2002). Additional sources include Bell and Fox, 2003; Bell and Bryson 2001; Goldberg, 2001, 2005; and Powell and Malia, 2003, Roder et al 2006.

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CHAPTER

1

Introduction

A journey of the thousand miles must begin with single step Lao Teu

Welcome!

The aim of this manual is to provide people who work with anorexia nervosa patients with a comprehensive module to help improve patients' mental flexibility and global thinking strategies.

Until recently, scientists believed that the adult brain was incapable of change; however, recent findings from neuroscience, clinical and experimental psychology challenge this notion.

The brain, thinking and information processing style are capable of change over the lifespan and the idea of this module is to introduce a 'Brain Gym' as a starting point in psychological work with severe cases of anorexia nervosa.

Very often, clinicians face challenges when treating patients with a long history of anorexia nervosa because several different psychological interventions have already been tried with the patient and they appear to have become 'treatment resistant'. Therefore, for these patients it may be that treatment needs to be approached differently. Rather than start by targeting eating *symptoms* for severely ill patients we can start by targeting thinking *processes* by using cognitive exercises delivered in a motivational fashion. This way, we can make sure that patients are engaging in treatment and that they are able to attend in a therapeutic setting.

The manual is our contribution to help professionals in the eating disorder field use recent neuroscientific findings in their clinical practice – in other words, we have attempted to translate our evidence-based research work to clinical practice.

The manual includes practical material including the rationale for using cognitive remediation therapy with anorexia nervosa, introductory scripts for introducing cognitive remediation therapy to patients, session plans, exercises (including useful recommendations on the web), case examples, a frequently asked questions section (compiled from questions raised at supervision sessions, from workshops conducted at international conferences and from different specialist eating disorder services), information

regarding supervision for therapists and ideas for working in a group format with cognitive remediation therapy. There are also descriptions of a qualitative evaluation of cognitive remediation therapy from therapists and an overall assessment of our first attempt to make cognitive remediation therapy a useful tool for patients with severe chronic anorexia.

We hope that you will find this approach a helpful way to explore with your patient: how they think; what strategies they use to solve simple tasks; and how strategies explored in the lab can be translated to 'real life'. The exercises also provide a useful stepping-stone to engage in further psychological work as well as promoting the feasibility of making small changes to everyday routines, which can lay the foundation for making bigger changes for problematic behaviours such as eating, body shape and weight and difficult relationships.

This motto very well describes what this module aims to address:

I think it is going to be difficult to think my way out of my problem because I think the problem is the way that I think.

We hope that with your patient this manual will serve as a valuable tool to start and change thinking about thinking. Simplicity, specificity of the material and a motivational style of delivery are the active ingredients of cognitive remediation therapy. Our observations from starting work with cognitive remediation therapy in an inpatient ward are that it is a most acceptable format to engage and start psychological treatment with patients.

Good luck with this journey.

Where did it all start?

Cognitive exercises in clinical settings were first introduced for brain lesion patients during the Second World War. A. Luria, an eminent Russian neuropsychologist, conducted pioneering work in this area. It was noted that by using cognitive exercises, people who had suffered loss of function, because of brain lesion, could recover function.

Until recently cognitive enhancement was only used with brain lesion patients, but gradually it has been successfully adapted. For example, many of the cognitive remediation therapy exercises in this module are based on tasks from the Cognitive Shift module of a pioneering cognitive remediation therapy programme for people with a diagnosis of schizophrenia by Ann Delahunty and colleagues (Delahunty et al, 1993, 2001). Further cognitive remediation therapy work in schizophrenia has been undertaken by Wykes and Reeder (2005) and Medalia and Choi (2009). Cognitive remediation therapy has been useful for other mental health conditions, for example attention deficit hyperactivity disorder (ADHD) and learning disabilities (Stevenson *et al.*, 2002), obsessive compulsive disorders (Buhlmann *et al.*, 2006) and brain lesion patients (Goldberg, 2001). It has also been successfully applied in educational psychology (e.g. Feuerstein, 1980), business settings (e.g. www.themindgym.com) and for old-age-related problems (Goldberg, 2005). Researchers and clinicians have found that encouraging patients to

practise skills and learn new strategies can influence quality of life, enhance functioning and improve self-confidence. Systematic reviews of the literature in schizophrenia clearly show that patients who went through this intervention improved in cognitive performance, clinical symptoms and general functioning (e.g. McGurk et al 2007; Wykes & Huddy 2009)

How do mental exercises change the brain?

We are very much habit-dependent beings and most of our day is spent doing things that we have done the day before: getting up at the same time, having the same breakfast, taking the same journey to work or school, and so on. Because of these routines, much of the time our brain tends to operate in an automatic way, responding to the environment in ways that do not require much explicit thinking. However, our brains have a capacity for taking in new information so we can learn new things and use this learning to operate in the environment in different ways. When we are consciously aware of what we are doing, we can engage in and respond to the environment rather than simply react in a passive way. We have the ability to think about and change what we are doing.

Researchers now know that the brain is a more plastic organ than was previously thought and because of this plasticity it is therefore capable of reorganization (e.g. Doidge, 2007). Plasticity refers to the ability of the brain to repair itself at both the neuronal and cognitive level in response to demands from the environment. This means that there is a possible relationship between new growth in the brain, a structured stimulation from the environment and the recovery of lost functions. To this end, our brain is shaped by how we use it, and practising particular skills leads to increased activation and even increased size of the relevant brain areas. Musicians, for example, have an enlarged and more active Heschl's gyrus, an area involved in auditory processing (Schneider *et al.*, 2002) and taxi drivers have an enlarged and more active hippocampus, an area associated with memory (Maguire *et al.*, 2000). Moreover, such benefits can be observed by people who are challenged by age-related cognitive decline (Goldberg, 2005) and specific disease-related cognitive deficits (Wexler *et al.*, 2000).

The aim of cognitive remediation therapy

A key aim of cognitive remediation therapy is to help exercise connections in the brain in the hope that this will improve function. This is based on the idea that networks in the brain will be activated and less used parts of the brain will be involved after cognitive exercises. Wexler and his collaborators found that patients with psychosis who demonstrate poor functioning in working memory, planning and flexibility showed increased activation in these areas of the brain after receiving cognitive remediation therapy (Bell and Bryson, 2001; Bell *et al.*, 2001; Wexler *et al.*, 2000). This finding suggested that practice would improve performance and increase confidence in using the skill. Reviews, to date, of all the studies undertaken using cognitive remediation therapy with patients with schizophrenia support its efficacy as a treatment and its role in helping functional outcome for patients (McGurk et al, 2007; Wykes and Huddy, 2009). A second

aim is to encourage patients to reflect on exercises as a way of raising awareness of thinking styles. This can be done by consciously learning new strategies, which can be reused, practised, and become generalized in behaviour. Therefore, cognitive remediation therapy aims to use practice, reflection and guided discovery to improve thinking style.

A further aim of cognitive remediation therapy is guided by research evidence which shows that by being motivated to change and the confidence that you can learn throughout life and making use from your mistakes can make it possible to succeed desirable aims in all aspects of life. Carol Dweck (2006) and her colleagues conducted several studies showing that there are two mindsets, 'fixed' (if one believes that talents and abilities are set in stone – either you have them or you do not) and 'growth' (if one believes that talents can be developed). The important message to take from Dweck's studies is that people should be acknowledged for trying – for their effort not their ability. This idea can be successfully used as an overarching theme in cognitive remediation therapy in conducting cognitive exercises, reflecting on them and implementing them in everyday life.

Cognitive remediation therapy is an intervention that ...

- consists of mental exercises aimed at improving cognitive strategies, thinking skills and information processing through practice
- promotes reflection on thinking styles
- encourages thinking about thinking
- helps to explore new thinking strategies in everyday life

Thinking styles associated with anorexia nervosa

Many factors contribute to the cause and maintenance of anorexia nervosa. There is evidence to suggest that these include genetic, biological and developmental factors (Jacobi et al, 2004). Furthermore, converging lines of research propose that certain personality traits serve to maintain the illness (Schmidt and Treasure, 2006). Such traits are those related to obsessive compulsive personality disorder (OCPD) which is associated with poor outcome of the illness (Crane et al, 2007). In people with anorexia nervosa these are seeing things in detail (Lopez *et al.*, 2008a, 2008b; Southgate *et al.*, 2005) being inflexible (Roberts *et al.*, 2007; 2010; Tchanturia *et al.*, 2004) and rule bound (Southgate et al, 2009). Evidence shows that these characteristics still exist even after weight gain (Green *et al.*, 1996; Kingston *et al.*, 1996; Szmukler *et al.*, 1992; Tchanturia *et al.*, 2004).

People have different ways of thinking. Some people find it very easy to accommodate new information and switch between different ideas and concepts, and so find it easy to switch between stimuli in their environment. These people are generally good at multi-tasking. Other people prefer to focus on one thing at a time and prefer not to be interrupted until they complete a task. These people also tend to do things meticulously: people with anorexia nervosa tend to fall into this category. Such thinking styles can be

seen clinically not only in weight controlling but in other areas of patients' lives. This can present as having difficulty with not being able to leave something as being just 'good enough' or where checking for perfection becomes a hindrance rather than a help. Being able to be very focused and being flexible when needed is highly important; being able to see details and the "bigger picture" have their own merits depending on what is required of the situation. However when one style becomes extreme and dominates over other thinking styles it may not be so helpful. For example, when being extremely focused stops you using other options, or extreme attention to detail stops you seeing the "bigger picture". In these scenarios it could be very useful to become aware of other preferable strategies and have a broader repertoire to draw on thinking about things.

Flexible thinking – what we have learned from research

Set-shifting has been described as the ability to move back and forth between multiple tasks, operations or mental sets (Miyake *et al.*, 2000, Lezak *et al* 2004). Problems in set-shifting may result in cognitive inflexibility, e.g. concrete and rigid approaches to problem solving and stimulus-bound behaviour, or responding inflexibility (e.g. perseverative or stereotyped behaviours). There is strong evidence from neuropsychological laboratory research that patients with anorexia nervosa exhibit a trait of cognitive inflexibility or poor 'set-shifting' (Tchanturia *et al* 2004 a,b; Tchanturia *et al.*, 2005; Roberts *et al* 2007; Roberts *et al*, 2010, Tenconi *et al* 2010). These broad set-shifting difficulties are evident in individuals with anorexia nervosa both during the acute phase of the illness and following weight restoration (Tchanturia *et al.*, 2002, 2004). The notion that set-shifting would probably be a difficulty in patients with anorexia nervosa has face validity as patients have been consistently described clinically as having thinking styles that are persistent, rigid, conforming and obsessional (Casper *et al.*, 1992; Vitousek and Manke, 1994; Davies *et al*, 2009).

Set-shifting entails changing one's responses according to environmental contingencies. An example may be changing routines to suit the demands of family, friends or work, e.g. in the multi-tasking required for cooking a meal and attending to children. In this case, both 'sets' need to be maintained in parallel, and responses must shift constantly between them. So thinking in a flexible way, such as this, may be rather difficult if you prefer to stick to one task at a time and see it through meticulously. Another example would be if plans changed at the last minute and an alternative plan had to be implemented. If you are somebody who likes sticking to hard and fast rules and routines this may be an uncomfortable proposition.

This module comprises ideas that have been tailored to target rigid cognitive styles for this patient group. The exercises are designed to encourage switching between different stimuli and include Illusions, switching attention tasks, embedded word tasks, estimating tasks, card games, and ecological tasks designed to think about being flexible in everyday life.



Thinking flexibly is useful

As described earlier, we are all creatures of habit to some extent. Habits, routines, rules and doing things always in a particular way or order, at a particular time, and keeping things in a particular place in your home or at work can be tremendously helpful. Habits and routines allow us mentally to work on autopilot. This makes life manageable and predictable, reduces time and mental energy spent searching for things, or deciding about options, and can reduce anxiety, uncertainty or chaos.

However, people with a less flexible thinking style are usually more dependent on habits than others and there can be downsides. Rigid rules or habits can get in the way of new opportunities and experiences: they can monopolize time which could be used for other useful things; they may isolate people and lock them into eternal boredom and shrinking horizons; they may make relationships go stale; and when habits or routines are disrupted (for example through illness, injury, loss, etc.) the individual may end up very upset. Take for example a child trained to a very particular rigid bedtime routine, which culminates in them hugging a very particular teddy bear. If that teddy bear suddenly is lost, all hell breaks loose.

It may be that there is a need to adapt and take on different skills, or work in conjunction with those who have other skills in order to fit more comfortably with the environment and the other people in one's life.

Bigger picture thinking – what we have learned from research

There is robust evidence that people with anorexia nervosa exhibit an excessively detailed information processing style, with neglect of holistic thinking (Lopez *et al.*, 2008a, 2008b; Tenconi 2010, Wentz 2009). It has also been noticed that people with anorexia nervosa perform better than non eating disorder comparison groups in tasks which involve piecemeal information processing (Gillberg *et al.*, 1996; Lopez *et al.*, 2006, 2008,

Southgate et al 2007). Being good at focusing on details can be considered a strength and there are jobs which will particularly require this skill, for example proofreading a document. However, generally, most jobs require being both a detailed and bigger picture thinker. For example, a secretary will need to make sure he or she has paid attention to the detail of typed manuscripts but also they will need to think about prioritising workload; a nurse needs to make sure he or she is focussed on applying the right medication and documenting accurate patient observations but also needs to be aware of all their patients needs and remain conscious of schedules throughout the day. And so if there is a bias towards a detailed way of thinking and people have an extreme tendency to focus on local over global information, it might become a problem. This information processing style means it is difficult to see 'the wood for the trees'. In anorexia nervosa, patients become very preoccupied with details, order and symmetry and, in relation to food, this thinking style means a preoccupation with details such as calorie content and fat content at the expense of overall nutritional value which contributes to a balanced diet.

Included in the manual are some ideas which will help to identify the style of extreme attention to detail and allow practice in holistic thinking. For example, to describe a complex picture for somebody else to draw, people with anorexia nervosa tend to execute this task by identifying the details first (such as describing the individual lines of a shape) instead of recognizing the global features. This is a poor organizational strategy, which makes it difficult for the person drawing to produce an accurate representation of the figure. It also makes it difficult for the patient to recall the figure as the information they have stored is piecemeal, thus not proving cognitively economical in memory terms.

An example of this detailed type of thinking in everyday life could be giving map directions to somebody over the phone. If you get caught up in every single detail such as all the landmarks you pass and all the shops which are en route, not only will the recipient start to feel confused but it is also easy to lose the overall aim of what you are trying to do. Exercises in the manual that target global thinking are the complex pictures task (as described above), describing directions using maps, summarizing letters using bullet points and titles (particularly relevant to patients e.g. information leaflet about the treatment programme or eating disorders or their assessment letter), practice describing detailed instructions in a summarised format (e.g. how to plant a sunflower), conveying information in a summarised format to others (useful when sending a brief text message) and to think about and practice prioritising events (either hypothetical or personally relevant events in the patient's life). The aim of these tasks is to encourage thinking in terms of the bigger picture rather than focusing on the details.

It is good to see the wood and the trees

A person with a detailed thinking style may be thought of as going around their daily life and viewing things around them like a camera that is set on zoom rather than widescreen, seeing the world as if it were a technical drawing rather than an impressionist painting. It may not be just visual perception that acts in this way, but the other four senses as well: touch, taste, smell and sound.

If we focus too much on details (microscopic vision), we will miss the broader context (telescopic vision) and no matter how important the details are, we have to remember the

bigger picture. Keeping the bigger picture in mind is important so that all of the smaller steps go in the right direction. Sometimes it is hard to keep a good balance between micro and macro parts of our behaviours. However, stepping back and reflecting is always a good idea. For patients to think about the bigger picture of their lives and move away from the details of calories and body image/shape could be very helpful in recovery.

Throughout this workbook there are exercises which encourage simple techniques to 'see the wood for the trees' and when necessary appreciate the strengths and weaknesses of extreme attention to detail.



Cognitive remediation therapy targets the process of thought not content

Many psychological treatments rely fundamentally on cognitive functions being intact (e.g. cognitive-behavioural therapy, cognitive analytic therapy, gestalt therapy). Cognitive rigidity and detail focused thinking are likely to have a significant negative impact on all therapeutic engagement and the usefulness of such treatments. To this end, cognitive remediation therapy may be a useful first step approach for anorexia nervosa patients because it is targeting the functions which underlie content rather than relying on their being intact in order for the intervention to be of value.

Furthermore, one of the problems with treating people with anorexia nervosa is that they have high dropout rates from treatment – there may be a variety of reasons for this. One of these may be the difficulty of discussing feelings and emotions when patients are so ill. Cognitive remediation therapy does not target emotional content and so can be a more appealing treatment for patients who are very ill and who are not ready to start tackling these issues.

Reflection on thinking style

As well as giving individuals an opportunity to strengthen brain connections through exercise, cognitive remediation therapy is as much about encouraging reflection on thinking style. In particular patients can be asked to reflect on:

1. Strengths and weaknesses of thinking strategies, e.g. with regard

to the complex picture task the therapist could ask, 'what might you change when describing another picture to someone?'

2. Challenging anxieties relating to thinking style; for example, 'what is the importance of doing a pencil and paper task like this perfectly, what is wrong with "good enough"?'
3. Building confidence, for example through completion of tasks.
4. Acknowledgment and appreciation of one's own strengths.

Trying out new behaviours

This module puts a strong emphasis on the real life relevance of the skills learned in the lab. This is implemented by not only encouraging patients to reflect on strategies and thinking styles at the end of sessions but also through introducing behavioural tasks to complete in between sessions. Undertaking these small behavioural tasks can give patients a sense of achievement and help to mentalize and internalize different cognitive styles.

Cognitive remediation therapy provides a safe, judgment-free and positive environment for learning, one where the patient feels able to make mistakes in rehearsal and practice leaving them free to learn and experiment.

The rationale for using cognitive remediation therapy with anorexia nervosa is based on the following criteria:

- There is no strong evidence-based first-choice treatment for adults with anorexia nervosa. The National Institute of Clinical Excellence in 2004 summarised research evidence for treatment in anorexia nervosa. It concluded that for young patients' family therapy is the highly recommended treatment option, but because of limited studies and no promising results for adult anorexia nervosa, no strong treatment recommendations could not be made (NICE Guidelines, 2004).
- There is research evidence that people with anorexia nervosa have difficulties in shifting cognitive strategies (e.g. Tchanturia *et al.*, 2005; Roberts *et al.* 2010).
- People with anorexia nervosa tend to extensively focus on details rather than the bigger picture (thinking is more fragmented than integrated) (e.g. systematic review Lopez *et al.*, 2008).
- A large proportion of anorexia nervosa cases are treatment resistant (Steinhausen, 2002,2009; Treasure *et al.* 2010; Lock and Fitzpatrick 2009).
- People with severe anorexia nervosa find it hard to engage in treatment, or to talk about food or emotional pain.
- Cognitive remediation therapy provides a safe motivational environment, a space where patients can think about their thinking and which provides an opportunity to start small changes.

Evidence for cognitive remediation therapy with anorexia nervosa

The authors have conducted a pilot study using this module as an intervention. This pilot study took place in the South London and Maudsley NHS Foundation Trust Eating Disorders Unit. Thirty patients with a diagnosis of anorexia nervosa (based on DSM-IV diagnostic criteria; American Psychiatric Association, 1994) were part of this pilot investigation. The assessments used in this study are referenced at the end of the manual.

Evidence to date has provided quantitative and qualitative data demonstrating: (1) a low dropout rate from this intervention (Tchanturia et al 2008), (2) patients' performance in cognitive tasks significantly changed, (Tchanturia et al 2008)(3) patients' self report on cognitive strategies improved (Genders et al 2008) and (4) overall positive feedback about this package was received from patients and therapists (Davies and Tchanturia, 2005; Tchanturia *et al.*, 2006, 2007; 2008; Tchanturia & Hambrook, 2009; Tchanturia & Lock, 2010; Whitney *et al.*, 2008;). Evidence also shows long-term benefits of cognitive remediation therapy (Genders et al, 2008) and also that it is acceptable as a treatment in group format (Genders & Tchanturia, in press).

Cognitive remediation therapy has also been applied to adolescent individual work (e.g. Cwojdzinska et al 2009; Lock et al in progress).

The therapy is learning

Provide your patient with a therapeutic setting that is directed by guided self-discovery. By this it is proposed that a more powerful learning experience will be achieved for your patient if they discover new thinking styles for themselves rather than being instructed on appropriate thinking styles. Therefore, refrain from making links between strategies used in tasks and everyday life; it will be more beneficial for your patient to make these links for him or herself.

There are situations (e.g. ill health, aging, bereavement) when we need to relearn some habits.

Let us remember two very important messages:

Learning is never too late

To keep your brain fit and strong the message is 'use it or lose it'!

Learning outcomes

Here are some of the outcomes you should aim to help your patient to achieve:

Reflecting on thinking strategies (thinking about thinking)

Acknowledging own thinking strengths

Challenging existing thinking styles

- Exploring new thinking styles
- Improved flexible thinking
- Improved decision-making and planning skills
- Improved integrated thinking
- Bridging thinking skills to small behavioural tasks
- Managing traits and breaking small habits
- Preparation for next therapeutic steps
- Building confidence to engage in future therapies

Generally, we do not go around thinking about how we are thinking. Like the person in a foreign country who keeps repeating the same words only louder each time still to be misunderstood by the local, we tend to think in much the same way even when it isn't getting us what we want. The solution is to spot and change mental default settings. Cognitive remediation therapy can help our patients to do this by helping them to think about thinking.

CHAPTER

2

Description of the module

This module can be used in inpatient or outpatient services. As part of inpatient treatment it can be used as a first-stage treatment for patients admitted to the ward. In the outpatient setting it can be used as a complementary treatment in a shorter form. Neuropsychological tests, self report and short clinical interview measures can be conducted before the intervention, following the intervention and at a 6-month follow-up in order to measure outcome. The assessments used in the pilot study are listed in the appendices section. However, these are not prescriptive. For example, collaborators in other countries can choose measures with which they are more familiar.

The module includes 10 sessions. The aim is to do one or two sessions per week, however this can depend on the patient and so the time frame may vary. The intervention is supposed to be quite intensive in order to reap the benefits. Each session should last approximately 30–40 minutes.

Sessions should include practicing specific skills using the exercises and using these to facilitate discussion between therapist and patient about thinking styles. Sessions are conducted in a motivational style.

Below is an example of a session plan. You will find that patients will vary in the number of tasks they can do in a session – some people can whizz through whilst others can only do a few. As the aims are not only to exercise brain connections through repeated *practice* but also to use the exercises as a *springboard* for reflection, a balance should be struck for covering these aims in 40 minutes.

An example of the session plan

- 1 × Complex picture description
- 2 × Illusion tasks
- 2 × Stroop tasks
- 1 × Estimation task
- 1 × Card stack task
- 3 × Main Ideas task

Resources

For each session, the following materials will be required: photocopies of relevant exercises, paper and pens for drawing and writing and playing cards.

There are a number of helpful websites with illusions:

For example:

<http://www.brainden.com/optical-illusions.htm>

And for the Complex picture task:

<http://www.primaryresources.co.uk/english/pinst.htm>

Behavioural tasks

When you feel your patient is ready (generally after Session 6, but this can vary for different patients), introduce the idea of making small behavioural changes outside of the sessions. This can reinforce strategies that have been discussed during the exercises. Below is a list of 'behaviour changes' that have been achieved by patients, however this is a guide and it is good to discuss with your patient ideas they have. Some time can be set aside in each session to do this. Feedback can be given in the following session.

Changing routines at home

- Choose different brands whilst shopping, e.g. a different brand of washing up liquid, moisturiser, breakfast cereal
- Change cleaning routines (e.g. have breakfast before cleaning the house, clean rooms in a different order, etc.)
- Change routines in the morning, e.g. clean teeth before/after shower – same for bedtime
- Change your favourite plate/mug
- Sort out your wardrobe and take items that you will never wear to the local charity shop
- Instead of keeping old newspapers, magazines, etc. cut out favourite sections and throw away the rest
- Leave the house untidy when going to work and tidy up in the evening; the same with laundry/ironing
- Sit in a different place at mealtimes
- Add one extra ingredient to your shopping list (**not** bulk food but a herb, spice, garlic, for example)
- Change around a small item of furniture or lamp in your room
- Estimate the amount of washing powder to use rather than using a measuring cup

Relaxing

- Listen to the whole album on your MP3 player rather than listen to the 'favourites' list
- Read the newspaper in a different order from your usual routine
- Skim through or read some parts of a magazine rather than read the entire magazine from cover to cover

Listen to a different radio station
Experiment with a different newspaper or TV programme
Shop for a novel item not related to food, for example stationery, flowers, bubble bath, candles
Wear different make-up or less make-up
Wear your hair differently (put your parting on the other side, wear it up or down, in plaits or blow-dried in a different way)
Write a short letter to a person you would like to talk to, even if you never send it
Go to the cinema or an art gallery
Borrow a CD or book from the library
Visit a public park or other recreational facility
Play a board game, e.g. draughts, chess, Monopoly
Play a game of cards
Experiment with drawing/painting using your non-dominant hand

Changing routines at work

Change routines for journey from house to work/college/hospital (e.g. use different buses, walk a different route)
If working with text on the computer, use a different font for the day
When reading an email or piece of work, switch between checking for grammatical errors and content errors
Use a different internet browser
Choose a different ring tone on your phone
Change the clock on your phone to 12 hour/24 hour setting
Estimate the time rather than wearing a watch



Ending letters

To mark the end of the 10 sessions, letters can be exchanged that have been written by yourself and the patient. These can be helpful in:

- Saying good-bye
- Reflecting and summarizing on what was learned, achieved, etc.
- Reflecting on what else would be helpful
- Being an additional way of expressing reactions about participating in the therapy
- Clarifying how the experience can be maintained after completing the 10 sessions
- Bridging the end of cognitive remediation therapy to what the patient may be going on to next, e.g. cognitive-behavioural therapy

In Session 9 the idea of ending letters, particularly their relevance, can be discussed between yourself and your patient. Ask your patient to write about:

- What was useful about the treatment?
- What was not useful?
- If and how the intervention was applicable to everyday life
- If they would recommend it to others
- How the intervention could be improved

Evaluate as you go

An example evaluation form is provided in Appendix A to help you keep a record of your patient's observations and your own. These can help you to write the ending letter after the ninth session.

The instruction page for each task includes questions which can focus your patient and encourage them to reflect on the tasks. Be mindful that your patient may find evaluation easier as the session's progress. In the first two sessions they may find it easier to give an overall summary at the end of the session; this is reflected in the style of the evaluation form for the first two sessions.

Some patients are better than others at identifying their thinking styles in relation to the tasks and linking these styles with how they think in their daily life. Others, however, have a tougher job doing this and may need a bit more encouragement.

CHAPTER

3

Exercises

Introductory script

This script is designed to give your patient a general idea of what to expect from cognitive remediation therapy as well as to orient them to the tasks. As a way of increasing motivation it may be a good idea to show how the tasks aim to improve cognitive functioning. You may like to illustrate the idea of how connections in our brains are strengthened by showing pictures of the brain to your patient and pointing out, for example, 'that when we use words we use the part of the brain shown here (this is known as Broca's area)'



'When we hold information in our mind, for example rules and directions, we also use the part of the brain shown here, known as the prefrontal cortex'



'When we use different parts of the brain at the same time we strengthen the connections between them because they are being exercised.'

'The sessions will involve playing some games and doing some simple puzzles which can be discussed as the sessions progress. The tasks are designed to be fun and your performance on them is not being judged. They are designed to help you practise skills as well as being a tool for reflection.'

Complex pictures task

Aim of the task

The aim of this task is to encourage patients to practise thinking in terms of the bigger picture rather than focusing on the components of the pictures as separate entities.

Describing figures, such as those overleaf, for somebody else to draw (who cannot see them) is hard if the tendency is to start with the details (for example describing four individual lines rather than saying a square). This type of thinking can be related to other areas of your patient's life where details get in the way of seeing the bigger picture and inconsequential matters supersede more important matters. It is important that this task focuses on training to integrate details not training for perfection on the task. If your patient seems concerned about performance, you might make jokes about your artistic ability and the production of the picture is meaningless.

Task instructions

Ask the patient to describe one of the Complex pictures for you to draw. You do not need to give any instructions on how to draw the picture because the aim is for your patient to discover their thinking style through the description they give of the picture. Once completed, look at the drawing you have done together and ask your patient to reflect on the picture and their description of it.

Ask for the patient's reflections on the task

What did you think of this task?

Were you aware of your thinking style whilst doing the task?

Does it differ from your usual thinking style?

What might you change when describing another picture to someone?

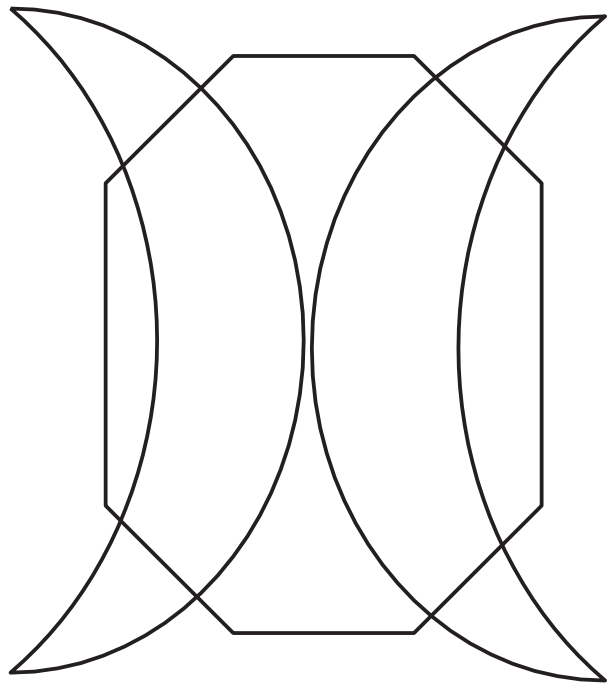
Can you relate this thinking style to other areas of your life? If they cannot, suggest some of the following:

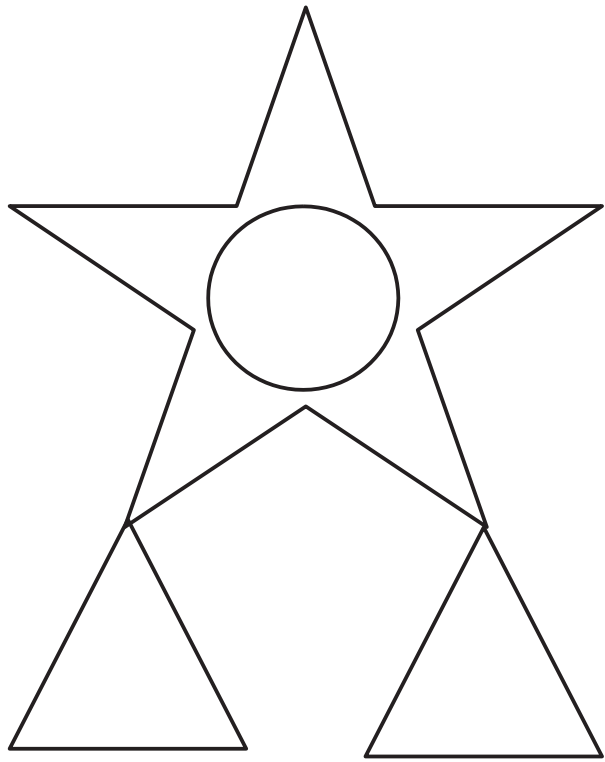
Have you ever tried to describe to someone a film you had seen or a book that you had enjoyed?

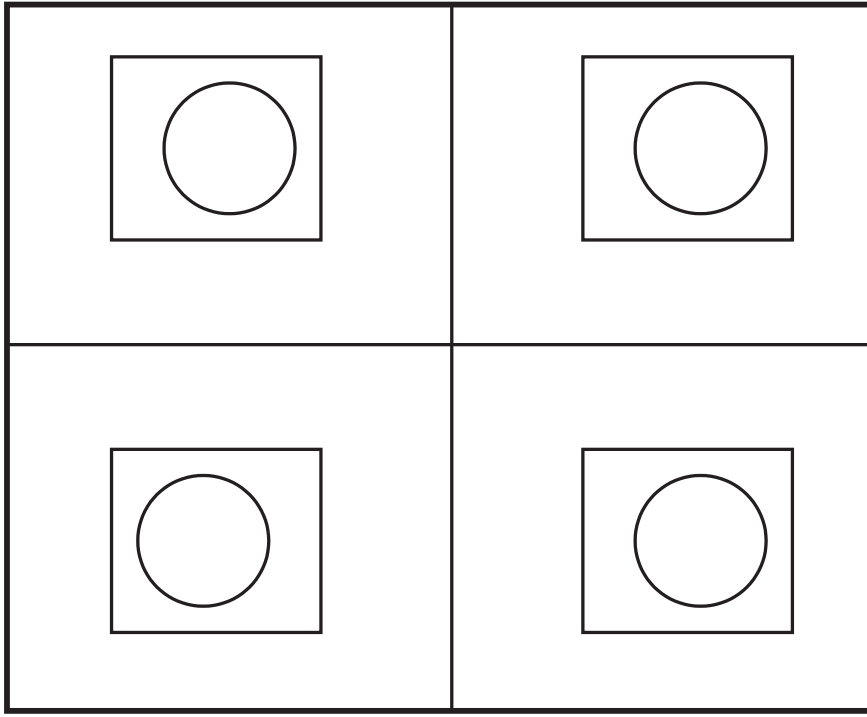
Learning how to take another person's perspective encourages us to be objective about how things look or behave. Have you ever been surprised to find that someone sees you differently than you see yourself?

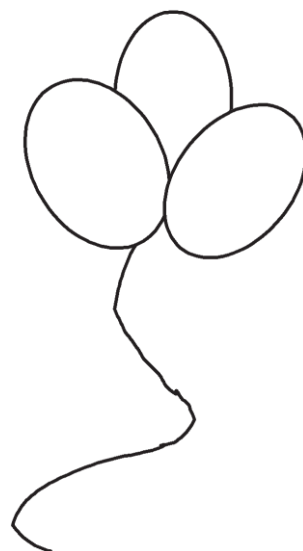
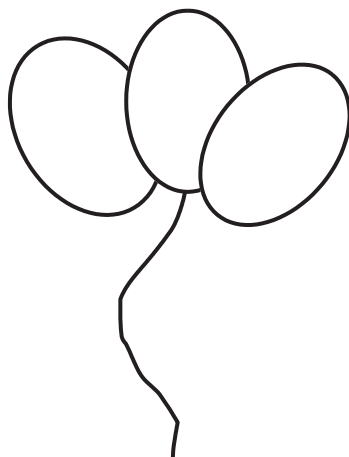
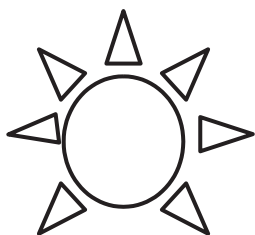
Do you find it difficult to think about your future? Do you get caught up in the details of daily life?

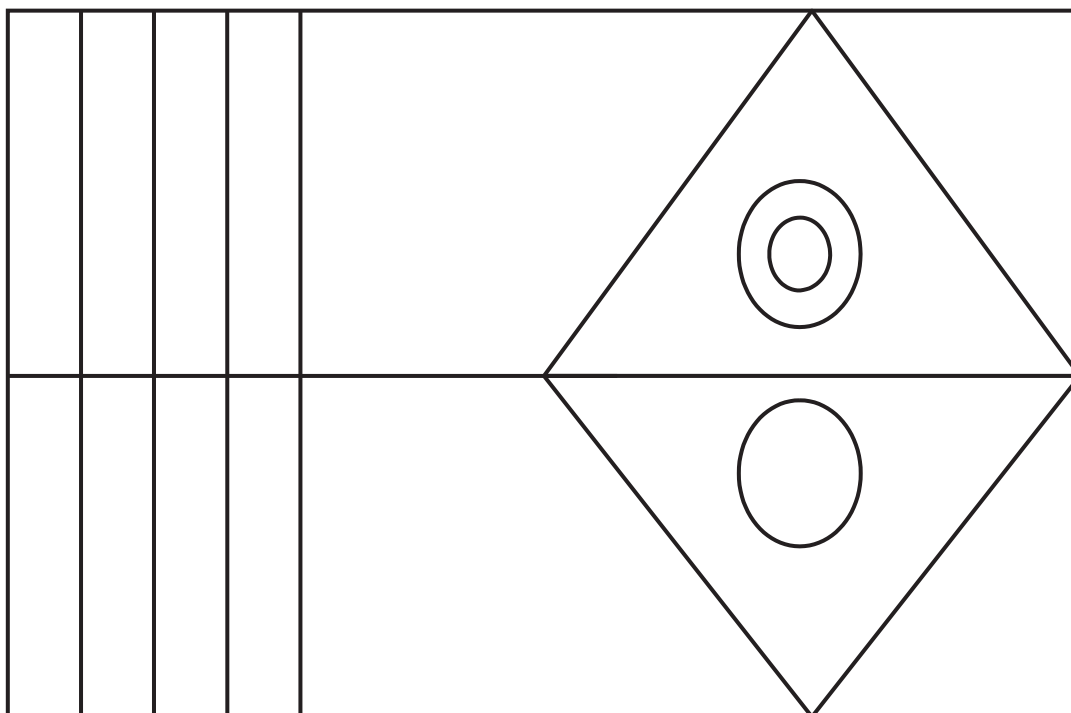
What are the advantages and disadvantages of detailed focused thinking and bigger picture thinking?

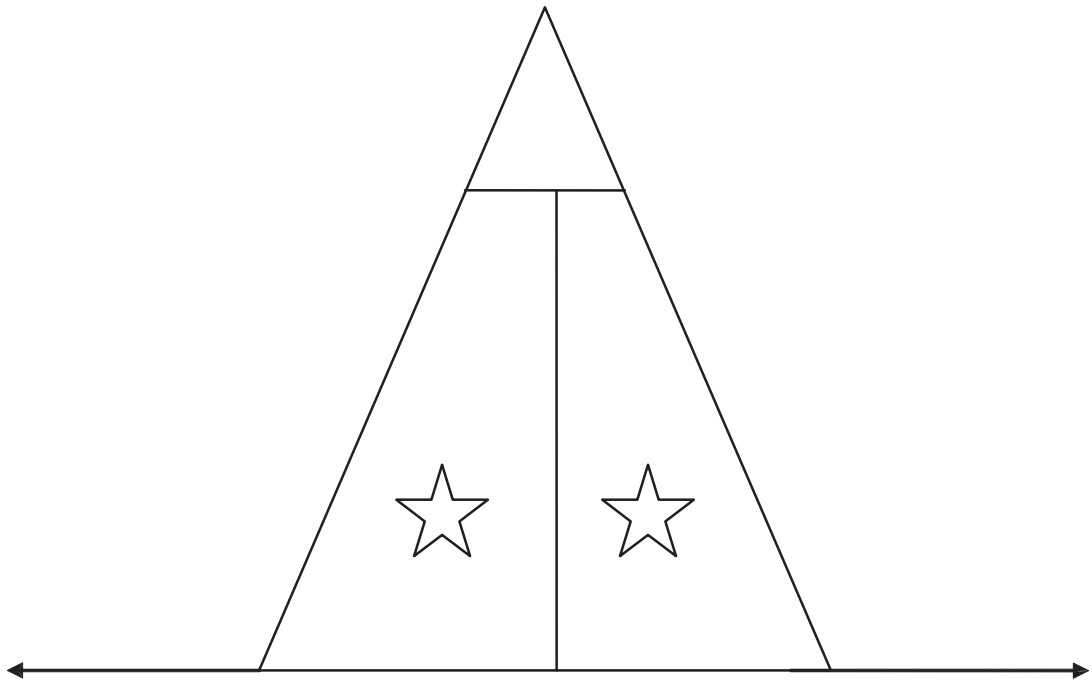












Main Idea task

Aim of the task

Like the Complex pictures task, the aim is to encourage bigger picture rather than detailed, focused thinking. Patients are presented with large amounts of written information in the form of letters and emails and required to extract what is relevant from what is detail.

Task instruction

Read the letter and try to summarize it in a couple of sentences. If the patient is comfortable doing this, you can then ask them to write the letter in a format of a text message and finally to make up a title for the text. If they find it difficult leaving out information, try summarizing a paragraph at a time and then in later sessions increase the amount of information that should be summarized.

Helpful hints

Start by making a few bullet points

Try to identify the main points and the details – what is important and what is not important; maybe underline the main points in the text

Imagine you are above the information – try to get ‘helicopter vision’

Talk to yourself by starting and finishing the sentence, ‘The main idea is ...’

Try to give a headline to each paragraph (or summarize the paragraph in one word)

Imagine a lens that helps you zoom in on information and zoom out from information – where could this technique be useful?

Ask for patient’s reflections

How did you find this task?

What drew you to the information you chose to summarize the piece?

Were you able to hold the whole letter/email in mind or did you get stuck on certain aspects of it?

How did you summarize the information as you read through?

How can you relate this task to day-to-day life? For example:

Are you able to follow what a person is talking to you about or do you get side tracked on one piece of information?

Are you able to follow the plot of a film or book or do you get side tracked on certain parts?

LETTER 1

Dear Mr Knight

I would like to apply for the job of reception clerk/telephonist which was advertised in today's Journal.

For the past four years, I have worked as a clerk/telephonist with Browns. Due to their move to another part of the country, I will be made redundant in two weeks' time. My present job involves general reception duties in person and by phone. I also operate the switchboard, deal with telephone enquiries, deal with the post, send fax messages, and type and word process 10–12 items daily.

Before this job, I was a YT trainee with Brightsons (Solicitors) in North Street, Invertown and completed RSA I and II in Business Administration with RSA II in Word Processing.

I have always enjoyed working with people and my previous experience will enable me to work as part of the team and to be an effective representative of your company. I am prepared to work Saturdays on a rota basis. I have my own transport. I am available for interview at any time and could start work immediately. References are available from my present and previous employers.

Please find enclosed a copy of my CV for your further information. I look forward to hearing from you.

Yours sincerely,
J Smith

LETTER 2

14th November, 2010

Dear Laura

As promised, please find enclosed your invitation, directions and reply slip for the reunion/cheque presentation evening. You will see that I have asked for your reply by Friday 9th December so that I can establish numbers before Christmas. If you should wish to bring more than one sponsor, I'm sure that will be fine, but it will be numbers permitting so perhaps you can pass this by me before asking them. Likewise, if you know of anyone who would like to participate in Cycle Madagascar II in September 2011 it might be interesting for them to come as well but, again, could you let me know before asking them.

The prime purpose of the evening is to hand the monies raised from Cycle Madagascar to the Psychiatry Research Trust, but it will also be a great opportunity to get together again so I do hope that you will be able to come. There will be drinks and canapés during the evening, but you will see that I have suggested going to ASK afterwards for supper. Please indicate whether you would like to do so when replying.

For those of you who are travelling, if you need a bed for the night let me know. I can't promise anything, but between us who live locally, there is a good chance that you will be able to be put up somewhere.

I very much look forward to seeing you.

With love

Nina

LETTER 3

14 March 2002

Dear Mr Temple,

I am writing with regards to the sofa I purchased from you on Thursday 2nd of March. I was told that it would take 3 days to deliver, so a delivery date of Monday 6th of March was arranged. Your sales people were most unhelpful and said that they couldn't give me a delivery time, so I had to take a whole day off work.

As if this was not bad enough, by late afternoon the sofa had still not been delivered. Upon calling the delivery centre to check where my sofa was, I was told that the sofa hadn't arrived at the depot for delivery. When I rang your sales team they said they would get back to me. I had no response and I had to call again the next day. I was told that a new delivery date had been arranged for Monday 13th of March, 11 days after ordering it. This does not fulfil your 3-day delivery guarantee. On 13th of March and another day off work, my sofa, much to my delight, arrived. Unfortunately it was the wrong colour, so it was taken straight back.

I now have spent over 3 weeks without a sofa. I would like a full refund immediately so I can go elsewhere to buy a sofa. I expect to hear from you on receipt of this letter.

Yours sincerely,
Miss Anna Chau

LETTER 4

Dear Ms Chau,

I am very sorry for all of the trouble you have had with your sofa delivery.

I have spoken to my sales team and asked them to explain why there have been so many problems. There have been several errors at the warehouse, and I am truly sorry for this. I have reprimanded those involved.

We can now deliver your sofa to you anytime that is convenient to you, during the daytime or the evening. I am also happy to refund you 20% of your payment, that is the sum of £210, as compensation for all of the problems that you have experienced. I have tried to call you but couldn't reach you.

Once again I apologize for the inconvenience caused. Please feel free to call me if you are still unhappy with the situation.

Yours sincerely,
Charles Temple

LETTER 5

9th March 2005

Dear Miss Saville,

I am a second year geography student, studying at the University of Portsmouth, looking to gain work experience during the summer months.

I would be extremely grateful if you would consider me for the 'Poole Harbour Recreational Activities Placement' for the coming summer of 2005.

I see this placement as a great opportunity for me to gain first hand experience of official research and survey work. Whilst providing a very interesting challenge, it will enable me to develop my knowledge of research work and management, along with learning new skills which will be beneficial to me in my future career. Having lived in Poole all of my life, I have developed a strong interest in coastal environments and would value this opportunity to gain insight into the management of such areas.

I believe that I have all of the necessary skills and qualities that will be needed to undertake this placement. I am a highly motivated and well organized person who can work well on their own and equally well as part of a team. I am computer literate in Windows and Microsoft Office software as well as having additional IT skills. I am competent in the use of Minitab statistical software, used for data analysis, and have experience in using the mapping software Erdas Imagine and Surfer 7. I have also just completed the module 'research methods and design', for which I gained a 2:1 score. This module taught me how to carry out research projects and how to analyse and present the results in detail. I also have excellent written skills, which have enabled me to gain high marks for essays and projects at university.

As well as the necessary academic skills, I believe I also have the social and personal skills required to complete the task to a very high standard. I am a very honest and dependable person with a good sense of humour.

I have excellent social and communication skills and believe I would make a valuable member of the Poole Harbour Commission.

Thank you very much for your time.

Yours sincerely,
Thomas Webb

LETTER 6

From: jbk14@cheerful.co.uk

To: ali_f@google.com

Subject: Becky's Birthday Party

Hi Ali,

I hope all is well with you, Mike, and the kids? I've finally gotten around to arranging a venue for Becky's birthday party. After a lengthy process of calling around all the half-decent restaurants in town, we have decided to go for Los Abrigos. It's that small but lovely-looking little Spanish tapas bar on Rose Street, next to M&S.

We thought it would be nice to go there because it always looks cute from outside and some of my friends from work went for dinner there a few weeks ago and loved it. Anyway, we've booked the whole restaurant out on Saturday November 5th. We're asking other people to arrive for 7.30 if that's ok with you and Mike?

The manager from the restaurant has emailed me a copy of the menu to circulate around to all the guests (see attachment). They would like us to order our meals before hand to reduce the chaos and confusion when we get there! I have to let the restaurant manager know definite numbers and give them all orders by Friday October 29th so please could you and Mike have a look at the menu and let me know what you would like ASAP.

Let me know what you think and we're all looking forward to seeing you in a few weeks. It should be a great evening and I know Becky is very excited.

All the best,

Jane

LETTER 7

15 Almond Walk
SA6 7XXXX
6 June 2007

Dear Sir/Madam,

The OfficeShredder X220 that I purchased from you on 15 May 2007 turned out to be quite a disappointment. While it looked the same as the one I saw featured on your website, it did not perform in the same way.

Following the instructions, I placed a wodge of no more than 10 A4 letters into the shredder and, to my utter dismay, the product began to smoke and produce a terrible burning smell. I experienced the same problem when

I attempted to shred just one piece of plain A4 paper. Now, when I turn the shredders power on all that happens is a low buzzing sound. The machine will not work at all now.

I have contacted the local branch of Office World where I originally bought the shredder and I was told that I could not receive a refund because I could not prove that I did not cause the shredder to break. The shop clerk suggested that I write to you directly and claim a refund under the terms of the 1 year money back warranty that came with the product. Therefore, I am returning the OfficeShredder X220 to you, along with a copy of the receipt

I received when purchasing the item, and ask that you issue me a full refund. I am not interested in receiving a replacement.

Yours sincerely,
Mr T Adams

Illusions task

Aim of the task

The aim of the Illusions task is for patients to practise holding two ideas – seeing the bigger picture as well as the details, but also to practise switching between different pieces of information. For example, the first Illusions task requires switching between seeing the face and the vase. For more examples of illusion tasks other than those included in the manual, please visit <http://brainden.com/optical-illusions.htm>.

Task instruction

Ask the patient to spend a few moments looking at the image and to describe what they see (see illusions overleaf). If they can only describe one image, ask what else they can see. Leave a good time length, e.g. 60 seconds, for them to explore the picture. If they are unable to see any other discernable element, you may ask if they would like some help finding the image. If so you can point to specific elements of the picture. If they are able to see another image, ask them to point to different features of each image. For example, for the Salvador Dali Picture (overleaf) ask the patient to point to the dogs nose and the persons mouth. More images can be obtained from websites e.g. brainden.com/optical-illusions.htm

Ask for the patient's reflections

Did you see more than one image almost immediately?

Did you push yourself to find the image as quickly as possible?

Did you use any particular techniques to find the other image, e.g. moving the paper around?

Were you able to interchange between the images easily?

How can you use this experience in everyday activities? If unable to respond, please give the following examples:

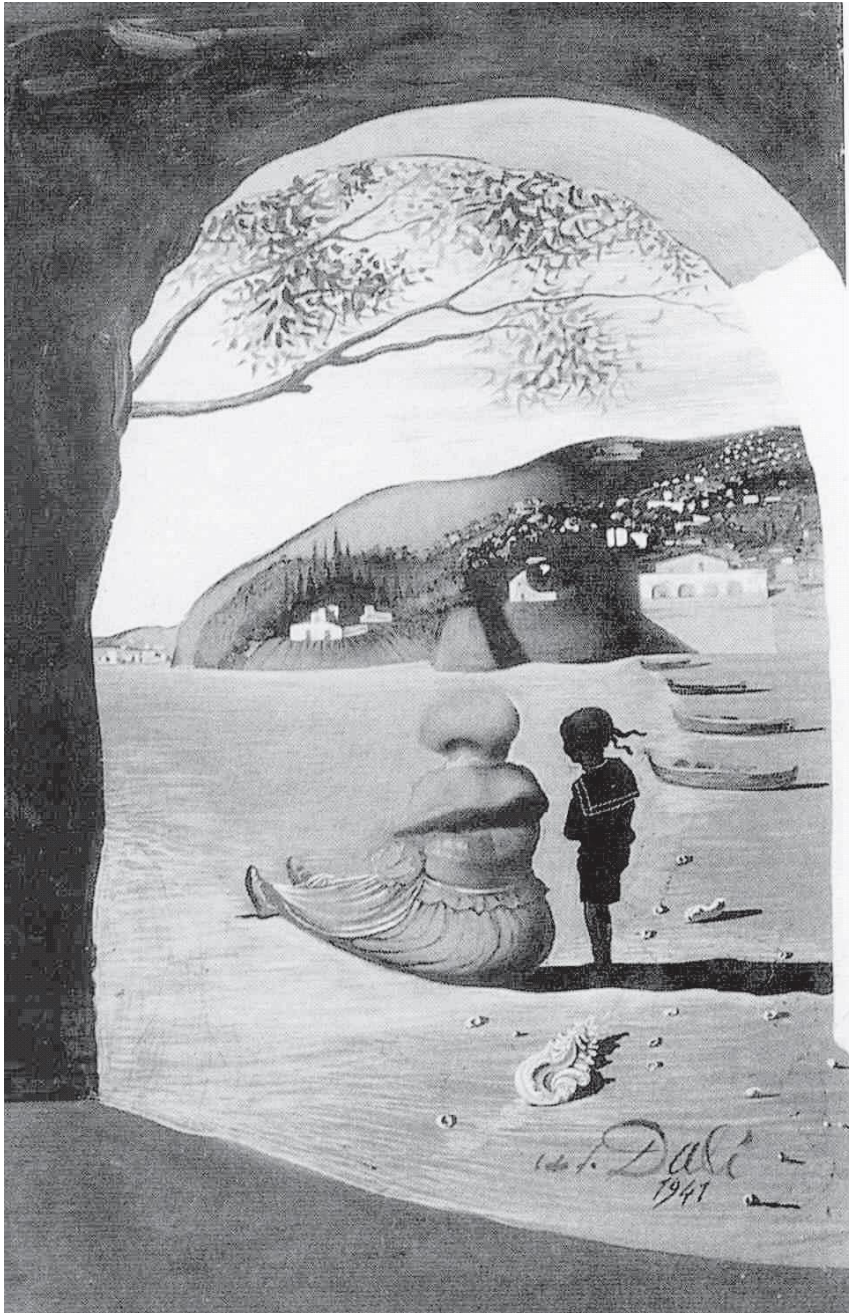
Have you disagreed about something with somebody and been unable to see their perspective? Were you eventually able to see their point of view?

Is it sometimes hard to change your mind about things?

Is it sometimes useful to step back from a situation to see the whole situation, rather than just parts?

Imagine a view of something; it could be the high street near you, a view of a holiday resort or the view from your bedroom window. Think of different ways of looking at this view. Imagine you are taking a picture. Think of all the different positions you could get into to get as many different shots of the same thing.







Stroop material

Aim of the task

The following tasks are designed to train patients to practise switching between different aspects of stimuli or between different rules for the task, quickly and accurately. The aim is to help patients increase mental control over what they focus on and to increase how fluidly they can move between ideas and tasks.

Task instructions

For all of the Stroop tasks (see overleaf), the idea is to increase the rate of switches as the sessions progress to encourage speed and accuracy.

Pictures

The aim is to switch between saying what the picture is and the word that is overlaid on the picture.

Colours

The aim is to switch between saying what the word actually says and the colour the word is written in.

Circle Square Triangle

The aim is to switch between saying the name of the shape and the word in which the shape is written in.

Number boxes

The aim is to switch between saying the word written in the box and the number of words written in the box.

Compass boxes

The aim is to switch between saying what the word says and the compass direction in which the word is placed, e.g. north may be written in the bottom of the box, and so the compass direction would be south.

Compass directions

The aim is to switch between saying where the arrow is pointing, i.e. N, S, E, W, and saying the opposite compass direction to where the arrow is pointing.

Clocks

The aim is to switch between saying the times on the clock faces using 24- and 12-hour clocks.

Ask for patient's reflections

Did you use any tricks/techniques for keeping your mind focused on the right task in hand?

Are these techniques you are familiar with?

Have you learned anything new about your thinking style?

How can you use this experience in everyday

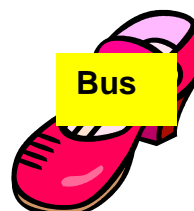
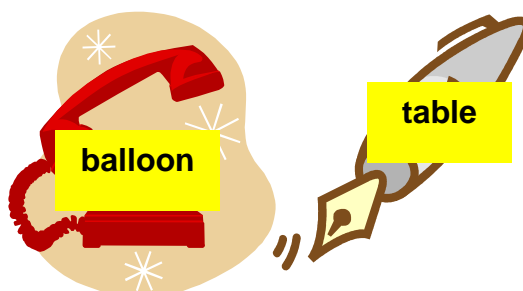
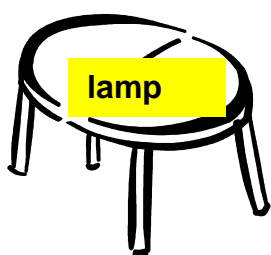
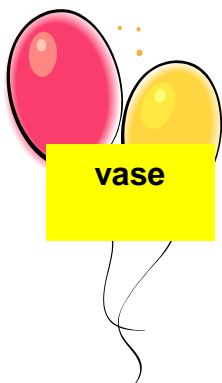
activities? If your patient is unable to respond, please give the following examples:

When can it be useful to switch attention quickly: in social situations, for example, at a party where you may have short

conversations with a number of people; driving – where

you have to attend to the road ahead, traffic signals, operating the car?

Is it hard for you to multi-task? When you try to multi-task, does one task or thought make it hard to hold other information in your mind?

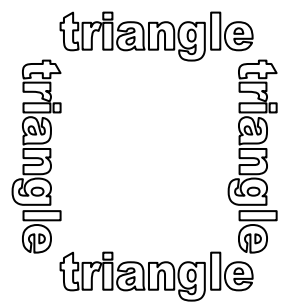
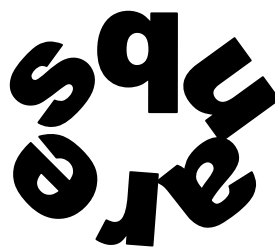
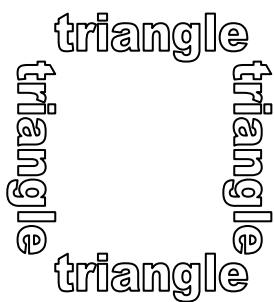
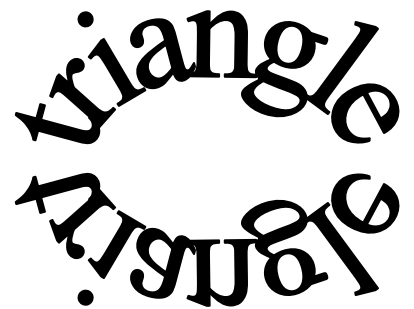
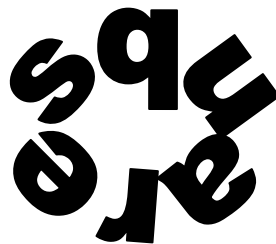
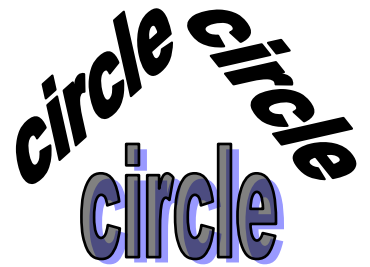
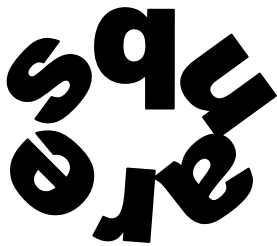
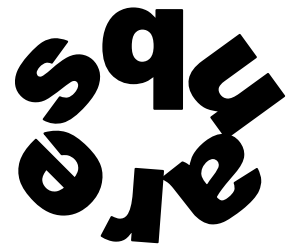
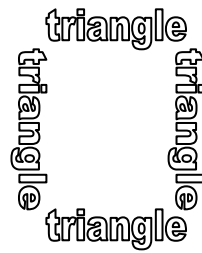
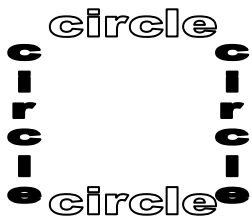


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YELLOW	GREEN	ORANGE	GREEN	RED
PINK	BLACK	BROWN	YELLOW	GRAY
BLUE	RED	GREEN	PINK	BROWN
ORANGE	BLACK	BLUE	GREEN	RED

RED	BLUE	GREEN	BLUE	BLACK
YELLOW	GREEN	ORANGE	GREEN	RED
PINK	BLACK	BROWN	YELLOW	GRAY
BLUE	RED	GREEN	PINK	BROWN
ORANGE	BLACK	BLUE	GREEN	RED

RED	BLUE	GREEN	BLUE	BLACK
YELLOW	GREEN	ORANGE	GREEN	RED
PINK	BLACK	BROWN	YELLOW	GRAY
BLUE	RED	GREEN	PINK	BROWN
ORANGE	BLACK	BLUE	GREEN	RED

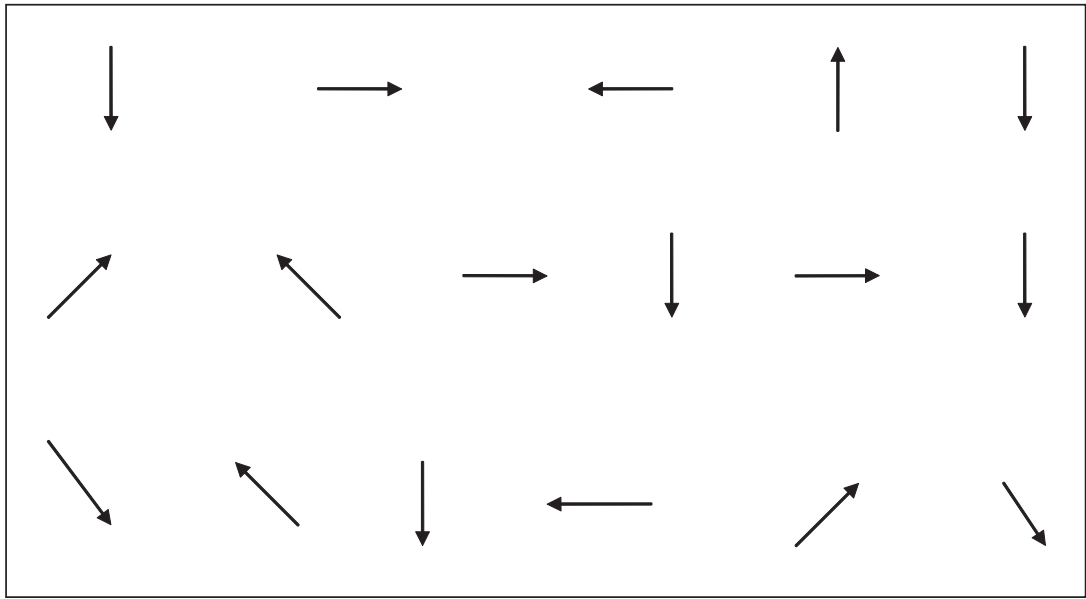
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ORANGE	BLACK	BLUE	GREEN	RED

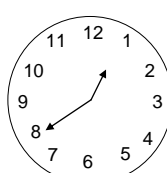
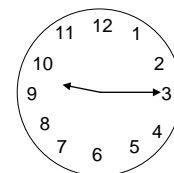
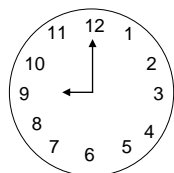
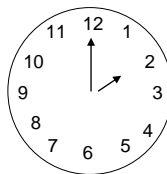
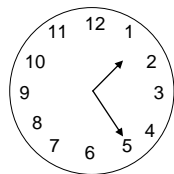
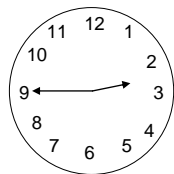
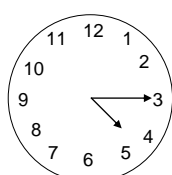
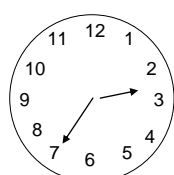
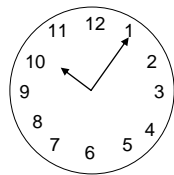
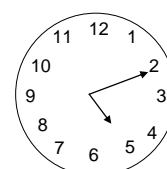
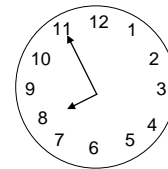
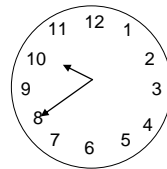
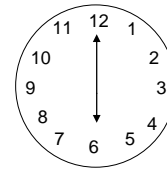
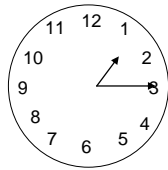
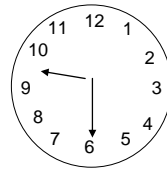
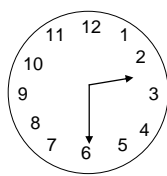
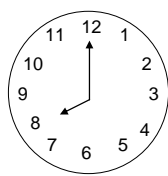
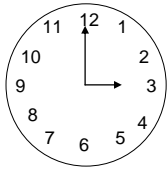


three three	one one one one	four	two two two	four four	two two two	three
two two two	three	four four	one one one	three three	two two two two	four
one one	two	three three	one one one one	four four	two two two	one one one

North	South	South	East	West
North	West	East	South	East
North	East	West	South	North

North West East South	North South	East West	South North	East West
West North South	North South	South North East	North East	East North
East West	South North	North West East South	West East West North	South East West North





Switching Attention task

Aim of the task

The aim of this task is to practise switching between two different pieces of information (animal and place names; male and female names) swiftly and accurately whilst also holding in mind a rule that requires remembering the previous answer (the letter of the alphabet).

Task instruction

Animal and place names: ask your patient to go through the alphabet, and think of animal names and place names. The aim is to alternate between saying an animal name and a place name, e.g. A antelope B Barcelona C cat
D Denmark and so on. This task can be presented verbally or on paper.

Male and female names: ask your patient to go through the alphabet switching between male and female names, e.g. Adam, Bella, Colin, Diane, etc.

If the patient finds this relatively straightforward the rule can be switched through the task and a third category can be added, for example names of animals, thus Adam, Bella, Cow, David, Elizabeth, Frog, etc. This task can be presented on paper or verbally.

Ask for the patient's reflections

How did you hold the two task rules in mind at the same time?

Was there ever a time you found yourself getting stuck, where a thought or idea about something else – like the old rule – got in the way of your being able to think of the task in hand?

When might it be useful to think of two things at the same time?

How might the thinking required for this task relate to day-to-day life? For example:

Are there times when you have to pay attention to many things at one time?

When you have many things to keep track of, does one 'stand out' more in your mind or is one easier to follow than others?

Embedded Words task

The aim of the task

The aim of this task is to practise identifying particular categories of information amongst irrelevant information. This task practises thinking in a way that requires seeing the bigger picture and the detail. It also practises flexible thinking by encouraging switching between different sets of information swiftly and accurately.

Task instruction

Hand the piece of paper with text (overleaf) to the patient. Follow the instructions at the

top of the page.

Ask for the patient's reflections

How did you find this task?

How did you decide what words to cross out depending on the rule? For example, how did you decide if a word was a place name or a hot word? Some patients make choices that do not seem obvious. Ask what they were using to guide these choices.

Was there a time you noticed you were stuck and the old rule got in the way of the task in hand? How did you move past it?

When might it be useful to do two things at the same time or use two rules at the same time?

1a. **Circle** 'hot' words while at the same time **crossing out** 'animal' words

1b. **Underline** 'musical' words, while at the same time **crossing out** 'place-name' words

fire violin Rome sticky tape rock bear zebra sun tissue one cat glue brimstone super mouse American flag diamond York switch mole witch dance velcro three kitchen burn computer holiday ice-cream note barcode pen grass blue four granite rabbit pillow ruler hen scald Roman road swerve tennis wolf flame glass Canada toffee lamb mountain barber's pole sun Africa sea drum paperclip treacle lava cola month triangle five blanket bed molten mental cloud paper France pie maths subway pomp music fur piano keyboard pills cow wallet glue wrist tiger clown jam milk watch sand lake chilli pepper stone kitten map quaver baboon stick phone French flag guitar goat wallpaper paste square bag carrot flipper horizon swimming Brazil deer brick hot tarmac hamster antelope balloon conductor kangaroo nice radio Cuba underwear honey alphabet car keys clipboard

2. **Underline** words describing clothing and at the same time **circle** words related to cold temperature

snow slacks newspaper top crisp freezer skirt books editor shoes incur trousers licence change vest doors font drawing sitting underpants icicle revolve pyjamas chilly sweatshirt t-shirt shout tonight ice cooker even costume happen nippy sleet assumption gate gloves temperature freeze point camera attire dress flower notification past slippers coat leave shudder garden pants swim blue danger socks pathway insert hat jacket suit trainers retainer glacier jeans hover shelves swing shorts sweater game raincoat slacks week permafrost December pushchair fridge winter sell shirt wonder frostiness outfit glasses type Antarctic giving cool bus box roof underclothes hustle iceberg ivy scarf chill gown regent avalanche undershirt stockings tie envelope stitch Melbourne red premises stove charge talent telephone hammer icy shelter icecap frost icebox mouse hail face bitter cabinet party boil boots medal money cap shiver belt cassette remote cable quiver

3. **Underline** words describing 'buildings or places' and at the same time **circle** words that describe sports

airport light swimming plug arrival handball bulb police station hang gliding polo arrangement scuba diving fire station church blackboard volleyball tray challenge pencil balloon chair finger meeting change mountain understanding traffic celebration envelope bus stop river duck softball plastic hockey squash smooth supermarket number jacket train station sofa post office horse racing group jogging cupboard motorcycle racing insurance typing paragliding participant skiing rubbish book cancellation allowance argument athletics curtain nursery road bowling alley convenience store time language keep department store hospital table tennis diving car racing stapler football carpet golf mirror

gymnastics video shoes folder friend zebra alternative lesson switch house track and field boat snow-boarding access signpost
fellow baseball cup equipment soccer description shopping centre newsagents
bag cinema paper background town hall envelope telephone pottery cycling rugby repetition barber shop
library efficient museum restaurant school bowling
bank book store apartment building office building gas station tennis computer
basketball desk pot

Word Search task

Aim of the task

The purpose of the task is for patients to practise focusing on relevant information amongst an irrelevant stimulus.

Task instruction

Ask your patient to find the relevant words in the word search (see below). If they are unable to find a particular word, encourage them to move on. The aim is to move swiftly through the word search.

Ask for the patient's reflections

How did you find this task?

Did you employ a particular technique to find the words?

Would you improve your technique if you did it again?

How could you relate this task to daily life? For example:

How do you find it when you need to proofread something at college or work?

Do you get stuck on a particular item?

Do you go shopping with a particular item in mind, e.g. a certain pair of shoes? What happens if you're unable to find the ones you were looking for – are you able to find something else?

Find the authors names in the word search below

e d s i e a a s a t
r t o s b a d m o m
a b r o n t e w i i
e m e e w n o e e s
p e l i o t n l s o
s e h g u h a d e h
e n o s i r r o m a
k a s o r s n n a r
a u s t e n o e j d
h e m j s n l n a y
s n e k c i d m s e

Austen	Dickens	Shakespeare
Eliot	Arnold	Hughes
James	Amis	Atwood
Morrison	Weldon	Hardy
Bronte		

Find the words relating to the universe

s s e p n u e e
t e u a l o p u
e u n n r u o n
n r i u e t t m
a n v n t v h o
l r e t i p u j
p y r u c r e m
e e s a t u r n
s h e a r t h s

mercury	venus	moon
Universe	Saturn	Earth
Neptune	Jupiter	Earth
Planets	Pluto	

Find the words relating to gardens

e n i m s a j i e f
l r v p s i e s r u
k e y d w s o e r s
c s q u i r r e l c
u e b r l i d b e i
s p e t u n i a e a
y l f r e t t u b d
e d w v t u e a o e
n i a i r e t s i w
o l e m b f i y c b
h o l l y e s e e p

butterfly

Ivy

fuchsia

petunia

rose

dew

jasmine

lavender

wisteria

holly

squirrel

bee

honeysuckle

Estimating task

Aim of the task

The aim of this task is to encourage patients to practise:

Estimating and approximating

Thinking on a continuum rather than dichotomously

To consider things as being 'good enough' rather than perfect

As with Complex pictures, it is essential that this task be focused on balancing speed and accuracy, not one at the expense of the other. Therapists should take care to minimize performance demands and focus on how an individual approaches this task.

Task instruction

Place the page (see figures overleaf) directly in front of the patient. Ask them to place a mark where they think the middle is on each of the lines/circles or squares. Explain that the mark does not need to be exact, but rather a 'rough' estimate. Direct the patient to start at the top of the page and not to miss any lines.

If they do this very easily, then the task can be made more difficult by marking different percentage points on the line, e.g. approximately 25%, 75%. Always encourage approximations.

Ask for the patient's observations

Did you like or dislike this task?

How did you approach the task? Did you use any technique to guide where you placed your mark?

Did you have times when you felt you were making a mistake? What did you do?

Did you do this differently than you usually do a task? For example, did you take more time or less time?

How do you feel about guessing at things? Do you like knowing more than guessing?

When can that be good? When might it not be good?

Do you look for the right answer or spend time focusing on the details, instead of choosing something imperfect, but acceptable?

How can you use this experience in everyday activities?

For example, estimate the size of the parking space when parking your car; estimate the amount of washing powder to use; estimate the time rather than looking at clock.

If patients take the task too seriously and spend longer than they should on the task, inquire about spending excessive time on small or inconsequential tasks. Ask if they often find themselves spending more time than they need to on details or making certain things are exact, rather than focusing on getting a task done 'well enough'.

Here are some examples of alternative strategies to perfectionist thinking:

'My haircut looks terrible and I am terrified of being seen in public' OR 'People on the street are much less interested in my hair than I am and they probably won't even notice. Besides, my hair will grow back eventually.'

'I'm so upset that my new car has a small scratch on it' OR 'It is normal for cars to have

small scratches. If it didn't happen today, it would have happened sooner or later.'

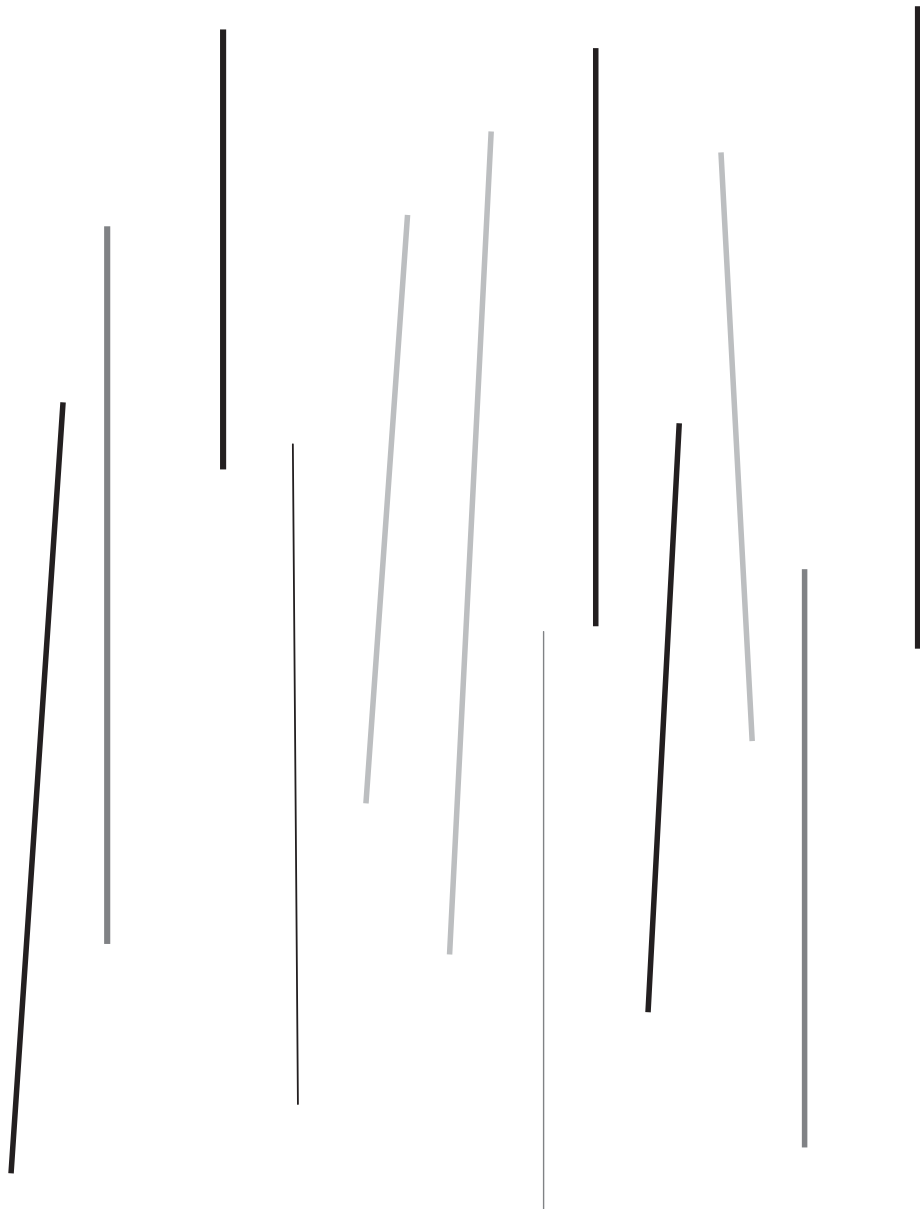
'Other people's mess drives me crazy' OR 'I guess it's only leaving a bag or something lying around. It's a small thing compared to the price of our friendship.'

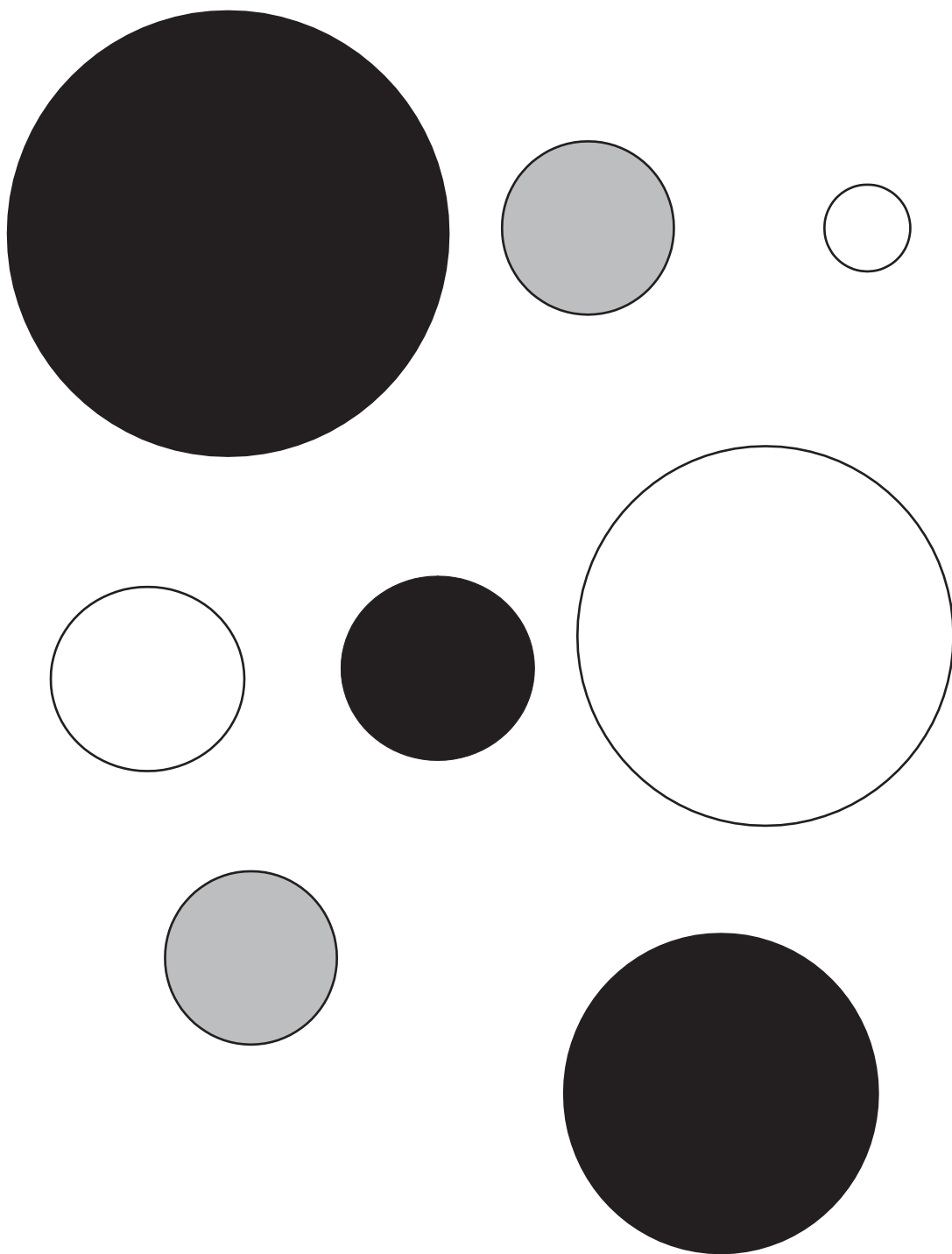
Think about your fear of making a mistake. Is it realistic? What would friends and family say? Is your fear rather out of proportion, maybe a bit like a phobia?

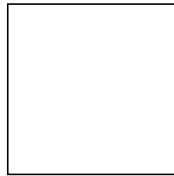
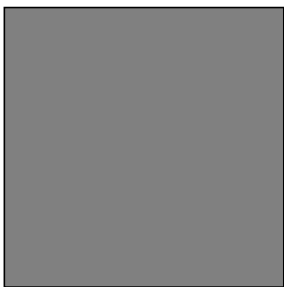
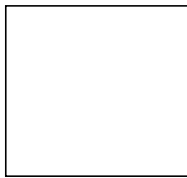
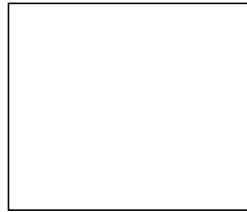
Halve the amount of time you take to do your hair or put your make-up on.

Halve the amount of time you take to tidy your room.

Only check something you've written once, e.g. text, letter, e-mail, report.







Up and Down task

Aim of the task

The purpose of this task is for patients to practise switching skills based on rule change. For example, counting forwards and then when the rule changes counting backwards. Therefore, patients are practising changing their response to something quickly and effectively.

Task instructions

Ski lift task

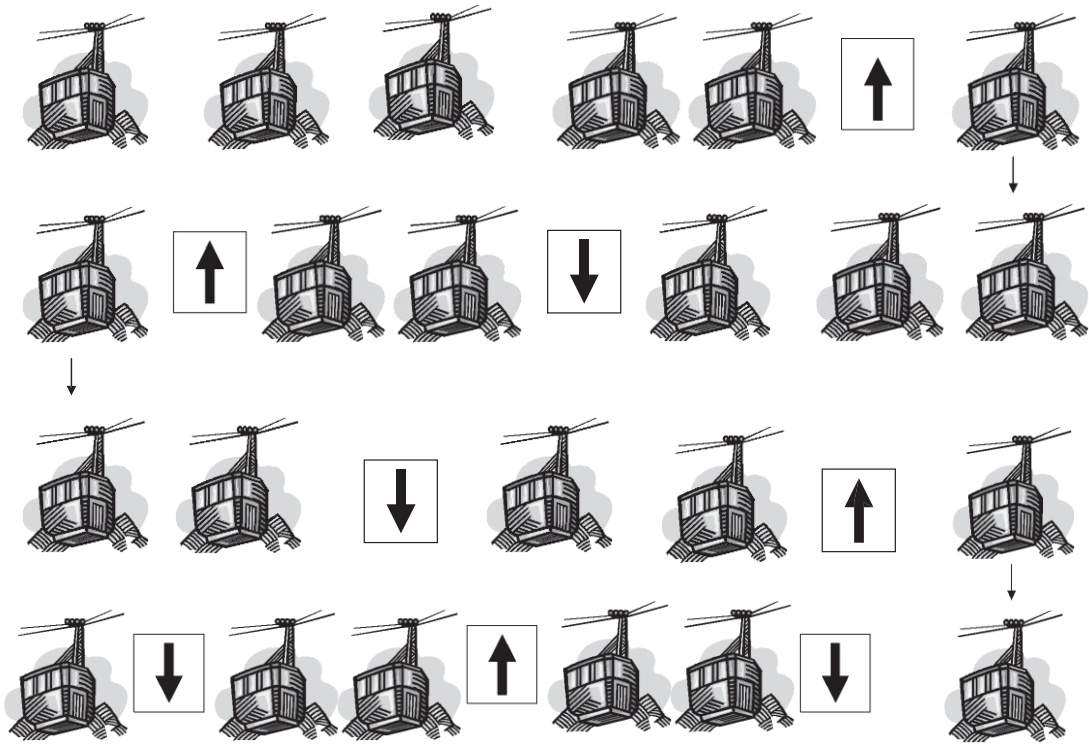
The ski lift is going up and down a mountain (see figure overleaf). The aim is to move through the sequence of pictures using the big arrows in the boxes as indicators as to whether the ski lift is moving up or down. When the arrow appears, your patient says either 'up' or 'down' depending on the direction the arrow is pointing. They then count on in the direction in which the arrow is pointing. If the arrow points up, they count upwards; if the arrow points down, they count backwards.

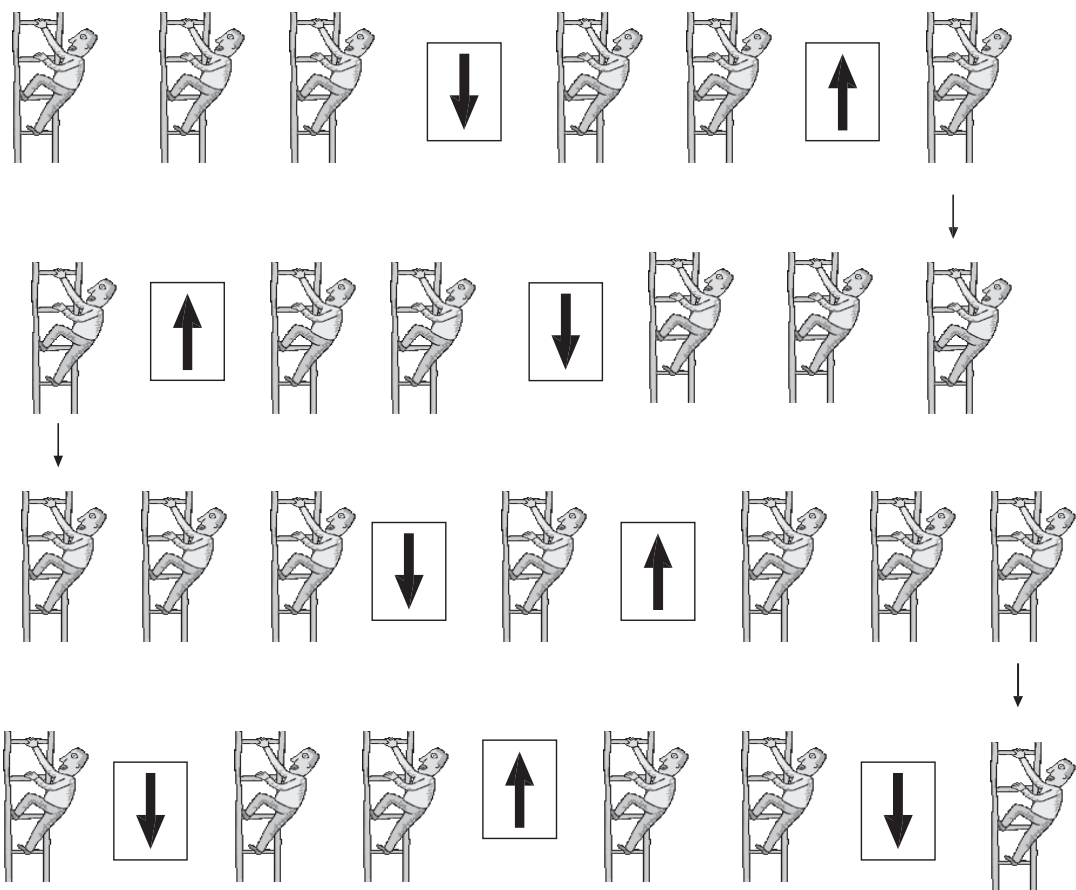
So, for example, your patient should start counting from the top left hand corner starting with 1, count on, 2, 3, 4, 5 until they come to the first arrow which points up, and then instead of saying '6' they will say 'up' (which means they then continue counting upwards), so the next picture will be 6 and so on until they come to the next arrow and counting will change in the direction according to where the arrow is pointing.

Ladders task

The window cleaner is going up and down the ladder (see figure overleaf). The aim is to move through the sequence of pictures using the big arrows in the boxes as indicators as to whether the window cleaner is moving up or down. When the arrow appears, your patient says either 'up' or 'down' depending on the direction the arrow is pointing; they then count on. If the arrow points up, they count upwards; if the arrow points down, they count backwards.

So, for example, your patient should start counting from the top left hand corner counting from 1, count on, 2, 3 until they come to the first arrow which points down and then instead of saying '4' say 'down' (which means they then continue counting backwards), so the next picture will be 2 and so on.





Card Stack

Aim of the task

The aim is for patient and therapist to place cards on top of each other based on different sorting principles, therefore switching between different categories based on colour, suit or number. The task is very similar to the card game 'snap' but utilises more sorting categories which are dictated by either the therapist or patient.

Task instruction

Playing cards are required, however, other stimuli can be used, e.g. toy money, coloured tokens.

Using playing cards the therapist will begin by placing one card down, perhaps a Queen of Hearts, and stipulate that hearts are the sorting principle. The patient should then lay a card following this principle, then the therapist and so on. This will continue until the therapist decides to change the sorting principle e.g. to the colour of playing card. Over the course of building the card stack, therapist and patient take it in turns to decide what and when the sorting principle should be.

Ask for the patient's reflections

How did you choose which card to place on the stack?

Was there a time when you wanted to put another one down but figured it was the wrong choice?

Did you choose speed over accuracy or vice versa?

Can you make links between this task and day-to-day life?

Examples of sorting, e.g. sorting washing into categories; packing food into carrier bags at the supermarket – strategies used for this, e.g. all cold items, all heavy. How straightforward do you find sorting things into categories such as these?

Maps task

Aim of the task

The purpose of the task is to encourage patients to think in different ways when navigating. It requires thinking in terms of the bigger picture because the end destination needs to be held in mind, but it also requires thinking flexibly because different routes are required, as is paying attention to different features on the map. Each map is different but all the maps require patients to navigate using different cues, e.g. compass, location, street names, or supermarket aisle names.

Task instructions

Ask the patient to choose one of the maps from those overleaf. Once they have chosen, ask them to look at the map and acquaint themselves with the different characteristics of the map. When the patient is accustomed to the main points they can then use other techniques to explore the map. Always ask your patient to find alternative routes to the one they initially suggested. If they are unsure about other routes to use, suggest some to them.

Ask for the patient's reflections

Why did you choose the route that you did?

Did you devise a route and then navigate it, or did you do it as you went along?

Ask how difficult it was to come up with alternative ways, especially if they struggled.

If they were able to change directions easily, ask what areas of their life they are able to apply this to.

Ask how this task can relate to daily life. Give examples if they are unsure.

Ask if they think ahead of the bigger picture when planning something or focus on the details.

Ask if they ever had to give directions to somebody over the phone. Was the person able to understand the directions they gave?

Ask if there are areas in their life where they have had to think of alternatives – e.g. making alternative plans at the last minute.

Map task 1

Go from the bank to Menton Street (now use street names)

Go from Terence Street to Pollux Street (now use compass directions and landmarks)

Go from Queen Street to the market

Map task 2

Use compass directions to go from Farm Way to the boat on the river

Use landmarks to go from the big forest to the farmer's cottage

Use landmarks to go from the blue road to the big forest

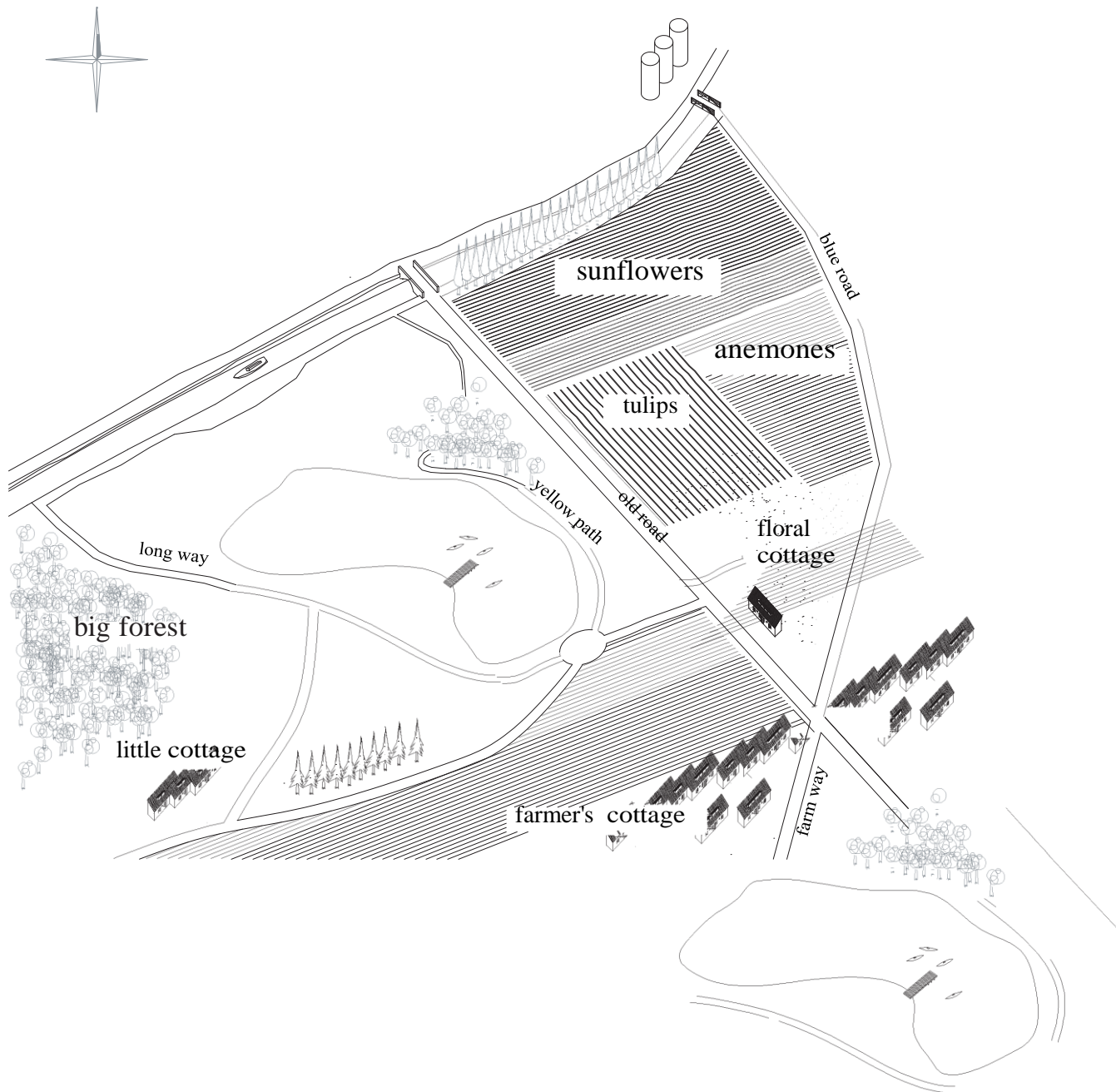
Map task 3

Pick up dry cleaning, pick up photographs; buy the following items: food for dog, face cream, memory stick for computer; return DVDs to the library; buy new shoes – relax over lunch

Do the same journey but using compass directions

Do the same journey using left, right, up, down





Prioritizing task

Aim of the task

The aim of this task is to encourage patients to plan ahead with bigger picture thinking.

Instructions for participant

How would you go about planning one of the events listed below? Think about the most important job down to the least important job and write them down. So, for example, what would be the first thing you would do?

Planning a train journey to another part of the country

Buying a present for a friend

Booking a holiday

Organizing your birthday party

Having friends over for the weekend

Looking for a new job

Decorating a room in your home

Ask for the patient's reflections

How did you find this task?

Did you enjoy it? If I wasn't here, would you have skipped it?

Did you find it easy to prioritize?

Did you keep hold of the event you were planning or did you lose sight of it at any point?

Can you remember the last time you did something similar to planning one of these events? How did you find it?

Bigger Picture task

The aim of the task is to practice extracting succinct pieces of information from detailed stimuli.

The therapist asks the patient to write a written description of a scene or visual image. The therapist will do the same for the same image.

Website such as this, <http://www.flickr.com/> can provide useful pictures of scenes.

When patient and therapist have finished they compare their descriptions.

Reflections

Are the two descriptions very different?

In what way?

Did one person write a lot more than the other person?

Which way gets the message across best?

Could you try to do it the way the other person has? (i.e. patient do it in the way the therapist has)

Is it difficult to be concise?

What are the problems with being too detailed? Do people sometimes get confused when you try and describe things to them?

Do you find it hard to write emails/text messages concisely?

Do you find this hard at work or at school/university?

What would help you to be more concise? Bullet points? Saying it out loud first?

How to... plant a sunflower task

The aim of this task is to practice expressing oneself in a succinct way. A good deal of our interactions involve getting messages across so that people can understand what we are thinking. Depending on the message being conveyed will mean this task can sometimes be trickier than at other times. This task can help to think about the bigger picture of what is trying to be conveyed and to think about the main points.

Below are some exercises which are designed to help the patient describe tasks in a succinct fashion. As well as using some of the exercises below you can also ask the patient to choose something they know how to do really well and to describe it to you. You can also ask the patient if they have any examples of their own of times when they found it difficult to convey information or have lost sight of the bigger picture (e.g. describing a film or book to someone or writing an essay for school/college).

Here are some tips which may help in thinking and explaining in succinct ways

Think about the main message you are trying to convey e.g. tell somebody how to plant a sunflower.

What are the materials or equipment required.

What are the chronological steps

Think about the time connectives (first, then, after this, during this time etc) which can be used to link your steps

Short sentences can be helpful

How to..Plant a Sunflower

You will need...

A pot

Soil

Sunflower seeds

A watering can

These are the steps you need to follow to plant a sunflower.

First, fill the pot nearly to the top with some soil.

Dampen the soil with a little water from the watering can.

Place the sunflower seeds onto the soil.

Next, cover the seeds with some more soil.

Finally, pour a little more water onto the soil.

Remember to water your sunflower once a day to help it grow! You will start to see the sunflower growing within two or three weeks.

How to.. play snakes and ladders:

First, understand the goal of the game. The aim of the game is to be the first player to reach the end by moving across the board from square 1 to square 100.

You will travel the board from base to top, right, then left and so on.

Commence playing. The first player to roll 6 can go first.

Each subsequent player must also throw a 6 to start the game.

The dice is then rolled again to show the number of squares that the player may move initially. Place the marker on the appropriate square.

Each player takes a go.

Snake: if a player lands at the tip of the snake's head, his or her marker slides down to the square at the snake's tail.

Ladder: if a player lands on a square that is at the base of a ladder, his or her marker moves to the square at the top of the ladder and continues from there.

The first player to the last square on the board is the winner but you must have the correct number on the dice to land on the 100 mark.

How to..Play Solitaire

Deal seven cards horizontally with the first card on the left face up and the rest face down.

Step 2

Repeat the deal with six cards, skipping the pile with the face-up card. Again, the first card in the deal (the second pile from the left) should be face up and the rest face down.

Step 3

Do this until you have dealt 28 cards. The last card on each pile should be face up.

Step 4

Put the rest of the cards aside, face down in a stack. This is the stockpile.

Step 5

Take out any aces showing and put them face up to one side. These will be the foundations for each suit. In other words, the first card in each pile is an ace, the next is a 2, and so on. One pile is hearts, one is diamonds one is spades, and the last is clubs.

Step 6

Turn over the top card in the stockpile if you can't play any of the cards showing.

Step 7

Build tableaux in descending order and by alternating colours. This means that the card played on a tableau must be the opposite colour of the card showing and it must be lower ranking. For example, if a 6 of spades (black) is showing, you can play either the 5 of hearts or 5 of diamonds (the red suits) on it.

Step 8

Put the card on the waste pile if you have no place to play it.

Step 9

Move an ace to the foundation when you find one.

Step 10

Turn the exposed face-down card over when you move a face-up card from the tableau.

Step 11

Move a group of cards when you have an open tableau. If the face-up card on a tableau is a red king and you have another tableau with the sequence queen-jack-10-9-8, you can move the entire sequence to the king as long as that queen is black.

Step 12

Place a king in an empty tableau space.

Step 13

Win by using up all of the cards and filling each foundation by suit with the ace

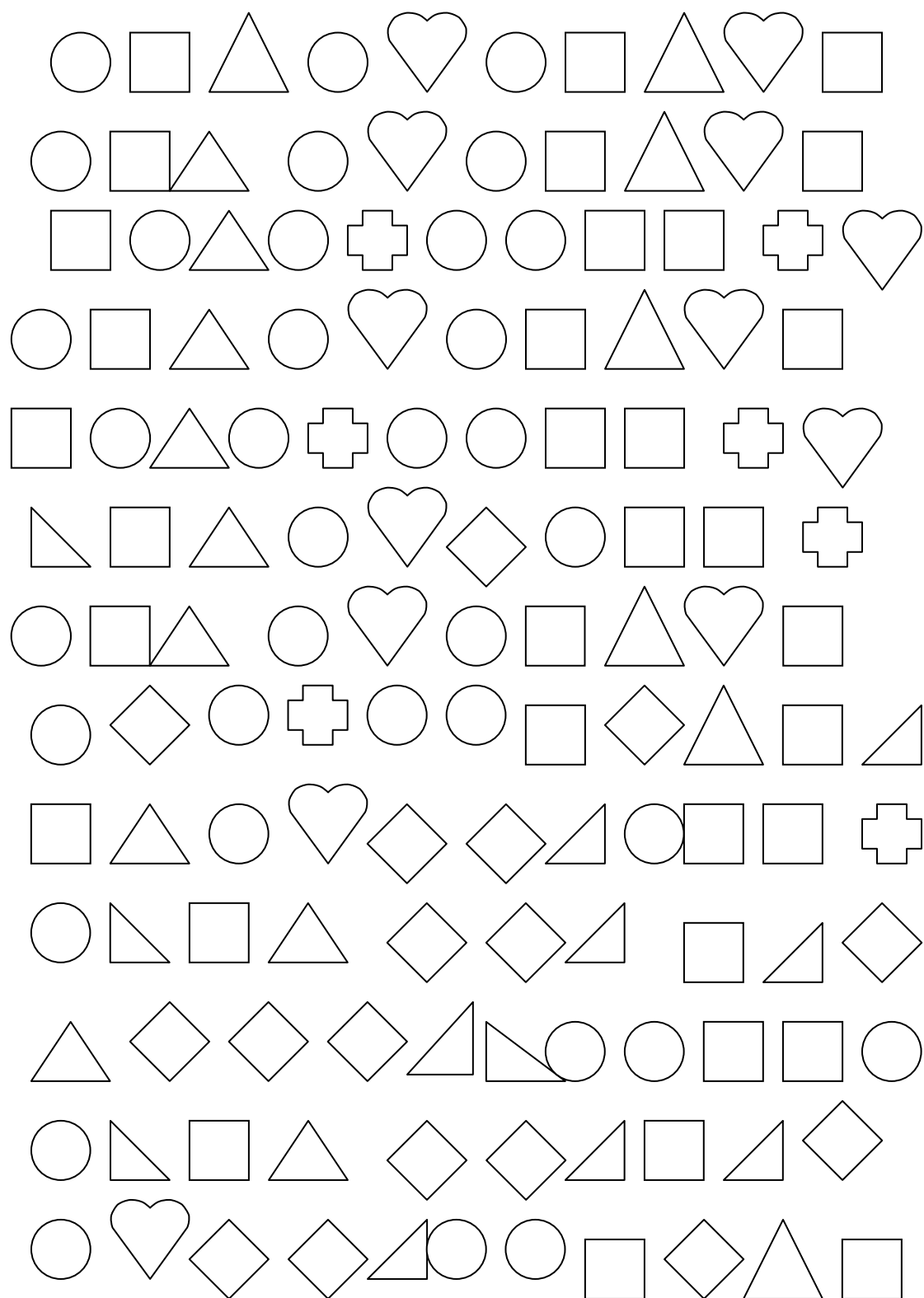
Search and Count task

Aim of the task

The following task will help the patient practice switching between different aspects of stimuli or between different rules for the task, quickly and accurately. The aim is to help patients increase mental control over what they focus on and to increase how fluidly they can move between ideas and tasks.

Task Instructions

Go through and point to the circles (see task overleaf). After doing this for a couple of lines, ask the patient to start counting up to 20 at the same time. Then switch between pointing to the triangles whilst counting up to 20. Then point to the circles and then the triangles whilst counting up to 20. This task can be made increasingly difficult depending on how easy/hard the patient finds it. For example, ask the patient to switch between pointing from triangles to squares whilst counting in odd numbers or alternate letters of the alphabet.



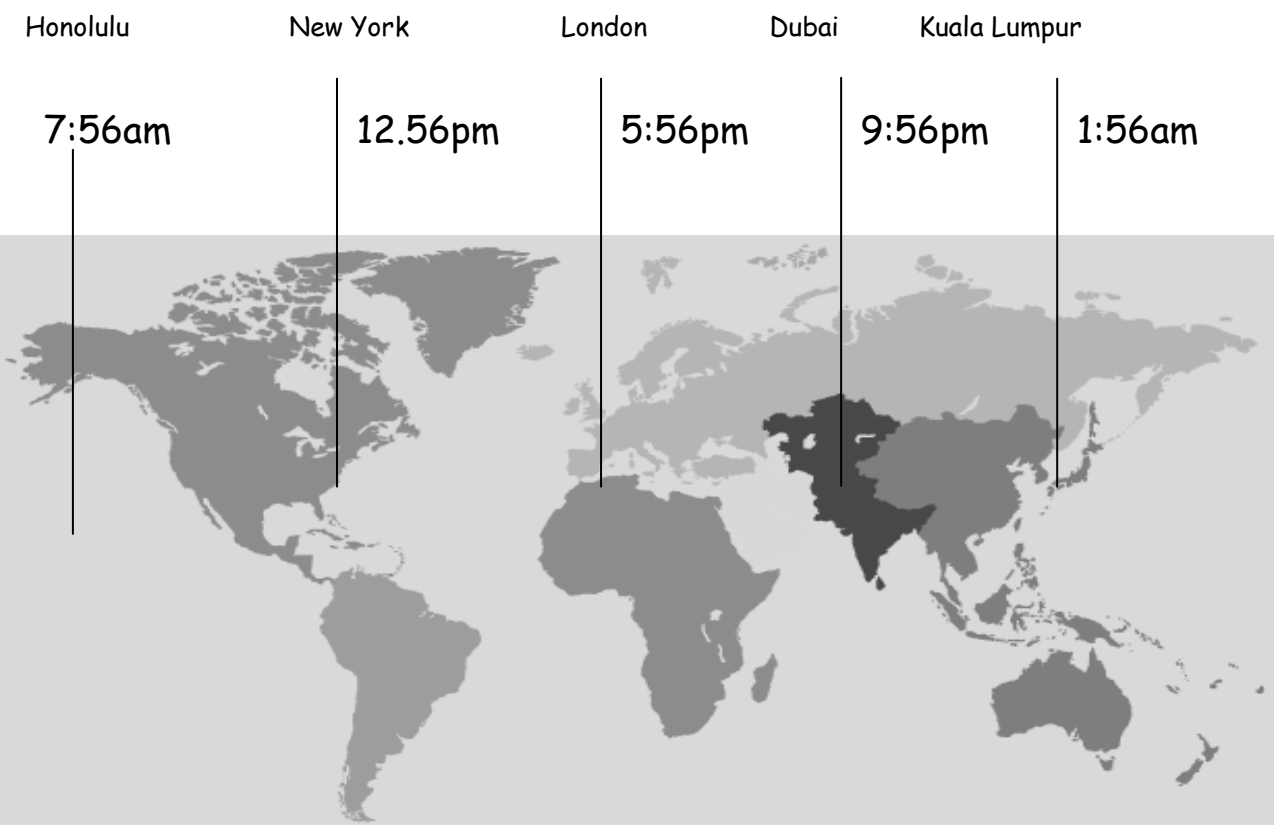
Switching Time Zones Task

Aim of the task

The aim of this task is to practice switching between information whilst holding a rule in mind. The questions below pose a scenario which will involve the patient thinking of the different time zones in different parts of the world.

Task Instructions

Present the map (see below) to the patient and work your way through the questions below the map. Start with the first question, which is the easier, and work through to the more difficult. The later questions require holding more information in mind at the same time and making more switches.



A conference call needs to be arranged between companies in three different countries, New York, London and Dubai. The company in London is the host and wishes to start the call at 11am. What time will it be in the other two cities?

It is New Years Eve and each capital city is having a firework display. Kuala Lumpur is the first city to have their display as it strikes midnight there first. What time will it be in each of the other cities shown above? When it is midnight in Dubai what time will it be in Kuala Lumpur? When it is midnight in New York what time will it be in Honolulu?

Joanna, who lives in London, would like to Skype her niece who lives in Dubai. Preferably at around 3pm on Saturday. What time should her niece be online? Granny, who lives in New York, would also like to be involved in the conversation, what time should she go online?

Ask for patient's reflections

Did you use any tricks/techniques for keeping your mind focussed on the right task in hand?

Are these techniques you are familiar with?

Have you learned anything new about your thinking style?

How can you use this experience in everyday activities? If your patient is unable to respond, please give the following examples:

When can it be useful to switch attention quickly: in social situations, for example, at a party where you may have short conversations with a number of people, driving - where you have to attend to the road ahead, traffic signals, operating the car?

Is it hard for you to multitask? When you try to multi-task, does one task or thought make it hard to hold other information in your mind?

CHAPTER

4

Case reports

The case reports are by five different therapists who have worked with anorexia nervosa patients in the inpatient ward. Each report provides an overview of the 10 sessions. Also included are patient and therapist ending letters, descriptions of assessment scores before and after treatment and body mass index (BMI) scores for the period before treatment, during treatment and the subsequent 6 months. BMI is defined as the ratio of weight to height and is calculated by dividing weight (in kilograms) by the square of height (in metres). A BMI between 20 and 25 kg/m² is considered within the normal range for healthy adults. A BMI less than 17.5 kg/m² fulfils one of the diagnostic criterion for anorexia nervosa. The names of the patients are pseudonyms to preserve anonymity.

All patients provided consent forms for their stories to be used in this manual and each of them selected an anonymous name to which they wanted to be referred. Each of the cases was intensively discussed on supervision sessions and any information helping to identify the person was removed. All described cases below are back in the community and no longer use the eating disorder service.

1. Lucy – therapist Natalie Pretorius
2. Nadine – therapist Helen Davies
3. Emma – therapist Abigail Easter
4. Sarah – therapist Becca Genders
5. Jo - Therapist Naima Lounes

We would like to thank each of the therapists for their contributions.

As can be seen from the case reports, all five patients had a low BMI (average 15 kg/m²) when beginning treatment. All of them showed weight gain throughout the intervention. They all demonstrated improvement in cognitive performance in different ways. Qualitative data, from ending letters provided showed that they had found the intervention useful.

Lucy

Case description

For Lucy, a 31-year-old female experiencing her first episode of anorexia nervosa, this was her first admission to an inpatient eating disorders unit. Nine months prior to admission, she had begun to lose weight by restricting her food intake and over-exercising. She had presented to her General Practitioner a few months later and was assessed at an eating disorders outpatients unit, and immediately referred to an eating disorders inpatient unit. Her BMI on admission was 13.8. Lucy had no history of anxiety or depression. Prior to admission she had worked as a media manager at a dance school and she also enjoyed dancing regularly. She was asked to leave her job because of health and safety reasons, however she did not wish to do this, and at the time of admission she wanted to return to work as soon as possible. She had a supportive partner with whom she had been for 10 years. Before the anorexia nervosa onset, her weight had been stable. Inpatient treatment consisted of occupational therapy, community group sessions, dietician group sessions, as well as structured meals. Prior to commencing cognitive remediation therapy, she had never received any therapeutic/psychological treatment. Lucy remained in inpatient care whilst undergoing 10 weeks of cognitive remediation therapy.

Identifying strategies in tasks

The first couple of sessions were used to familiarize Lucy with the tasks, the setting and her therapist. After each task, Lucy was encouraged to think about the strategies she used whilst doing the task and to discuss the advantages and disadvantages of these, as well as possible alternatives. This enabled her to explore strengths and weaknesses in the flexibility of her thinking style. It became evident that Lucy was able to identify her thinking styles towards the tasks more easily as the sessions went on. In fact, she started to 'try out' alternative strategies in order to test if they were more effective than others. For example, despite describing the complex figures globally she had a discussion with the therapist about alternative strategies, such as describing the inner detail first. In the next session, she tested this out by deliberately describing the inner detail first. She commented that this did feel more difficult to do and that describing the outside first seemed to be a better strategy.

Relating strategies to real life

In Sessions 3 and 4, Lucy was encouraged to think of how the strategies she used in the tasks were similar to thinking styles that she used in real life situations. Again, she found this easier to do as the sessions progressed. Some of her examples are as follows: switching between seeing layout of the blocks of text and reading actual text when at work (Stroop task); switching from being at work to going to a dance class at the same place (Embedded Words task); switching between grammar and structure when proof-reading a paper (Stroop task); estimating the size of a screw when doing renovations (Estimation task); describing one or two main buildings as opposed to every building on the way when describing directions to someone (Complex pictures task); being shown

how to tie a shoelace a different, easier way by a partner (Main Idea task). Of note, not only did Lucy find it easier to identify her thinking strategies and generate examples as the sessions progressed, but she also became better at doing the actual tasks.

Developing awareness

Around this time, Lucy started to become more aware of rigidity in her behaviours on the ward. For example, she said that a nurse had commented that she always ate her rice pudding from the top of the bowl, a behaviour which Lucy had not noticed before. The nurse suggested that she try eating it from a different side of the bowl. Although Lucy was able to do this, she noticed that she soon started eating from the top again. Lucy and the therapist discussed the benefits of being aware of these kinds of habitual behaviours.

Identifying themes in thinking style

From the first sessions, Lucy did most of the tasks quite well; as a result, any inflexible thinking styles were not initially apparent. She used appropriate strategies, and the real life examples she generated involved strategies that she seemed to be already familiar with and regularly used in domains such as at work, home or through dance. However, in Session 5, Lucy commented that, although she hadn't initially thought that she was rigid in her thinking, she had observed that she had been approaching the tasks in the same way most of the time. In the next few sessions, the therapist encouraged her to deliberately carry out some of the tasks in very different ways to explore different strategies and identify any potential inflexible thinking styles. It was through this that three main issues emerged regarding Lucy's thinking style: (1) her need to get things right/perfect, (2) difficulties in switching attention and (3) difficulties in identifying emotions.

Need to get things right/perfect

Lucy's need to get things right was demonstrated while doing variations of the Estimation task. For example, after doing a timed variation of the Estimation task, she commented that she didn't feel the need to be as 'measured' in finding the middle of the lines, and didn't care so much about the accuracy as she had before carrying out the tasks. This task drew her attention to how she tends to think in real life situations where she experiences the need to be perfect and to get things right. She related the process of having to change the way of doing something to achieve the same result to a real life example of having to reduce the accuracy of a document to meet a deadline at work. In these situations, she still felt the need to keep going back to correct the document and make it perfect, despite the fact that any changes in it at the final stage would mean re-doing other procedures.

This prompted discussion about her tendency to have trouble 'letting go' when she thinks she's wrong, and she gave an example of having an argument with a colleague at work and not being able to stop thinking about and continually stewing over it.

Switching attention

Issues of 'switching attention' also arose through the set-shifting (cognitive flexibility) tasks such as the Stroop and the Embedded Words task. Lucy related thinking processes in these tasks to episodes when she is interrupted from reading or when absorbed in something. In these situations she feels annoyed at being interrupted. She said that although she was able to make the switch, she didn't like doing it and found it irritating and difficult to do.

Identifying emotions

A further issue that arose was Lucy's inability to discuss emotions. She was always very good at the Main Idea task where she had to summarize a long passage of text in a few key points. She linked this skill with her preference for dealing with facts, and not paying attention to irrelevant details or addressing emotions. Because this module of cognitive remediation therapy was not targeted at addressing mood or emotions, this wasn't explored further. However, identifying this issue turned out to be a valuable insight for Lucy, and was something that she took forward to her psychology sessions after the 10 sessions of cognitive remediation therapy had finished (see Lucy's comments below).

Transferring strategies to real life

After having identified Lucy's thinking styles, the therapist helped Lucy to explore how some of the effective strategies that had been learnt in the tasks could be applied to real life situations. For example, they discussed how she could apply the strategy of 'letting go' in the Estimation task when working on documents at work, to be able to *not* go back to correct it again and again, but to be able to feel OK if it was not perfect.

Similarly, strategies were discussed which could help Lucy deal with situations of having to switch her attention from one thing to another. Her strategy when switching in the Stroop task was to make the decision to switch to reading the colour of the words from what was written, without letting the previous colour distract her. It was discussed how she could use this same strategy in situations such as switching from reading to answering the phone, or being interrupted by a colleague while working.

Behavioural tasks

In the last few sessions, the idea of behavioural tasks was introduced and it was discussed how Lucy could try to implement these between sessions. The idea was to link some of the new strategies she had learned over the course of cognitive remediation therapy to everyday behaviours. They designed a task where she could try to complete the week's ward menu once in pen, instead of doing several drafts in pencil (which she usually did). A strategy of how she would implement this was discussed. Lucy said she would try to look at the seven days of the menu as a whole first before starting with the individual days, and would try not to go back and keep correcting it. In the next session she commented that although it was a lot harder than she had expected and it had taken her a couple of goes, she had in fact managed to do this.

Lucy also tried out other behavioural tasks such as buying a different newspaper, and

reading it in a different place from where she usually did, although she did this quite easily and didn't find it particularly challenging. However, in her letter she identified potential behavioural tasks for the future which might be more challenging for her (see Lucy's letter).

Letters and reflections

In Session 9, the idea of end-of-treatment letters was introduced. The therapist asked Lucy to write her perceptions and experiences of cognitive remediation therapy, focusing on what she felt she had learned, and anything that she felt could be improved. The therapist wrote a letter in return to Lucy summarizing the sessions.

In the final session, each read and discussed the letters. Lucy had started her further psychological work with a clinical psychologist one week before the cognitive remediation sessions had finished, and had already begun to address some of the issues that had emerged through the sessions. For example, she had already started addressing her perfectionist tendencies and her inability to talk about feelings and emotions. She commented that cognitive remediation therapy was a 'gentle' way to start to think about things, as opposed to talking about feelings immediately, which is something that she would have found particularly difficult. In this way, she thought cognitive remediation therapy led quite nicely into her next stage of therapy. Her feedback letter illustrates this (see below).

Letter from therapist to patient

Dear Lucy,

We've now nearly finished our 10 sessions of cognitive remediation therapy and I want to say it's been great to meet and work with you and to thank you for your hard work and commitment over the last few weeks. As promised, here is my letter summarizing my thoughts of the sessions.

From the beginning you had no real trouble with any of the tasks, and I've been genuinely impressed with how well you've been able to reflect on your thinking styles, both in the tasks within the sessions and in real life. You were always good at the task where you described the shape for me to draw, and I drew it correctly on most occasions. In one of the early sessions we had a discussion about how it might've been more difficult for me to draw the shape if you'd described each inner detail of the shape. Do you remember how you tried doing exactly this in the next session to test it out? I was impressed with this, as I think this shows a skill to be able to reflect on and explore different strategies. I remember that you related this task to giving directions to someone; you said it might be more difficult to understand the instructions if you described every building along the way, and less confusing to describe one or two main buildings. Another strength of yours was seeing both pictures in the 'illusions' tasks, and you said that you are good at seeing both sides of a story; in fact, you told me that you often play devil's advocate in situations.

You were particularly good at the 'main idea' task where you had to summarize a letter in two or three bullet points. We discussed the strategies you used to do this task and you said that you tried to draw the main, most important, themes from the letter, and ignore the irrelevant 'fluff'. You related this to being able to draw the facts from a lot of information.

You said that this is a way of thinking that is similar to how you think, and said you can be a factual kind of person who isn't concerned with irrelevant details; however you said that this could have its disadvantages as well. For example, you told me that it can sometimes come across as 'abrupt' in situations, such as when emailing. You also related this to preferring to talk about the facts and not feelings, and you told me that you find it especially difficult being on the ward where people talk about their feelings. Again, Lucy, this shows you were able to reflect on your thinking style.

You were very good at the 'switching' tasks. You came up with some great examples of how the strategies used in these tasks might be similar to real life situations. For example, you said that you use this style of thinking when switching between the format/layout and text in documents at work. We also talked about how these strategies might be useful when being interrupted from doing something you're absorbed in, for example, when reading. You said that, although you are able to switch in these situations, you don't like it and find it quite annoying. Your strategy for doing the task where you switch between saying either the colour of the word or what was written was to make the decision to switch at the end of the line and not go back to, or be distracted by, the previous task. We talked about how this same strategy could be used when switching attention to someone if being interrupted.

I wonder if this might sometimes make things a bit easier for you, especially at work.

Lucy, I feel we've had some interesting discussions, and I remember you mentioned that you felt I 'pushed' you a bit more in one of the final sessions. I hope this was OK. I remember you said that you didn't initially think that you were 'rigid' in your thinking; however, you thought that maybe you were in that you were approaching the tasks the same way in the sessions. When we explored doing the tasks in different ways, we came up with some interesting discussions. For example, in the timed 'estimation' task, you commented that you weren't as 'measured' in the way you approached the task. This led to us talking about situations where these ways of thinking might be beneficial. For example, you told me that you don't normally 'stew' over things unless you know you're wrong, and in these situations you find it difficult to let go. You gave an example of having a disagreement with someone at work and finding it difficult to let go.

In a similar example, you talked about when you complete the menu on the ward, and how you were doing drafts in pencil first before doing it in pen so that you didn't do it wrong. We talked about how you could try doing it in pen first, and thought of the strategy you could use to do this: by looking at the menu as a whole first before starting on the details of each day, and not being as 'perfectionistic' about it. This is an excellent strategy and one that

I hope you'll be able to put into practice, not only for the menu, but for other situations also. Maybe by using some of these strategies you won't feel as though you have to put as much pressure on yourself if you don't get things right.

I've really enjoyed our sessions, Lucy, and I hope you feel that you've learned some things about the way that you think from some of the strategies that you used in the sessions. I hope I can also encourage you to keep practising them in other areas of your life – at work or at home.

I wish you all the best for your future and for your recovery.

Best wishes,
Natalie

Extracts from Lucy's feedback

Lucy's letter covered many themes, including (1) developing awareness, (2) issues of perfectionism, (3) switching between stimuli, (4) inability to identify feelings, (5) behavioural tasks identified for the future, (6) using cognitive remediation therapy as an introduction to other psychological therapy and (7) overall impression. Quotes from her feedback letter are shown below to illustrate these issues.

Developing awareness

... As the sessions went on I became more and more aware of my thinking and why I had made those particular choices. [Therapist] encouraged me to challenge the way I carried out the tasks, acknowledging that there were many different approaches and this led to me to try different strategies for the tasks.

... We started to use the exercises to identify behaviours rather than activities, which was illuminating as I entered into this...believing I wasn't rigid in thought patterns or behaviour. I realized that many patterns I have, I am not aware of, like the example of eating the rice pudding from one edge of the bowl; this is something I was unaware of, but something that I was very able to change when it was brought to my attention.

Perfectionism

... Returning to tasks in this way [checking repeatedly] may not always be the healthiest thing to do, and in some cases it may be better to leave the task; being content in the knowledge that it was completed to the best of my ability under the circumstances, rather than dwelling on the feeling that it wasn't good enough and then needing to go back to improve it.

Switching attention

... We talked a lot about my ability to switch between two tasks...We explored this further by using examples of being interrupted from reading a document at work by a colleague. Usually, I would view this as an intrusion, however a more positive way to see this would be to view it as an active choice – I am giving my attention to this other activity, rather than seeing it as a reactive or passive action of being disturbed. I can see the benefits of approaching situations in this way as it may enable me to be more flexible and amenable instead of being annoyed at the supposed intrusion.

Addressing feelings/emotions

The tasks which demanded that I pick out factual information and key points to be communicated illustrated to me that this is how I conduct myself in everyday life, always trying to communicate the facts and not giving time, or in some cases importance, to the things that surround those facts. This could lead to me ignoring pleasantries or feelings, making it easy for people to misinterpret my direct approach for rudeness.

Behavioural tasks for the future

One observation I made was that when building the tower with the coloured shapes [Card stack task], the prevailing choice I made was to never pick the same object as the previous one and this made me consider that I was being inflexible. This could be identified in choosing to have a different breakfast every day, or by not wearing the same clothes or same shoes on consecutive days. So perhaps these are challenges I could identify for the future.

Cognitive remediation therapy as an introduction to other treatment

My experience of cognitive remediation therapy has been very positive and I can really see the benefits of using this approach as an introduction to other types of therapy. I had never had any sort of therapy before and I held a lot of preconceptions about what therapy was and what it could offer me. I felt absolute fear at the thought of a therapist actually saying, 'Tell me about your childhood and your relationship with your parents'; but also held on to blind faith, that therapy would offer some sort of epiphany, that all my questions would be answered, that I would be able to pin point exact points in time and relationships which brought me to this point. It is becoming clear that neither of these presuppositions is true and they are based on my lack of understanding of therapy.

One of the reasons that I feel cognitive remediation therapy has been so beneficial to me is that I have come to a place now, after 10 sessions, where I can pick up things in psychology. In my initial psychology assessment I was able to talk rationally about my desire to make things as good as I possibly could, perhaps with tendencies of overachievement and aspirations to perfection – this tendency was identified in cognitive remediation therapy through the time-limited and eyes closed exercises. We also identified my predisposition to relate to things rationally and practically in a very action orientated way, perhaps at the detriment of my emotional side – this was identified in treatment with the exercise where I was asked to summarize a letter into 3 or 4 key points. I feel that I am much more accepting of these ideas because they had already been brought to my attention through other means, i.e. cognitive remediation therapy.

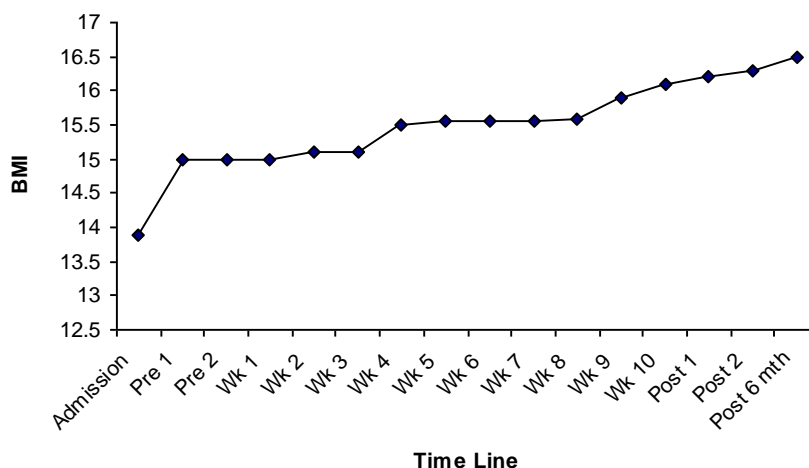
I feel that it was a real achievement to gain such insight in my initial psychological assessment and I believe this was very much due to the level of understanding and acceptance of therapy that I gained through this experience of cognitive remediation. Without cognitive remediation therapy it would have taken me a much longer time to accept these tendencies, but now I feel confident to explore these issues further in psychology.

Overall impression

I really enjoyed the [cognitive remediation] research and I appreciated the complexity of the tasks. At times I felt the tasks were a little repetitive, but I realize now that it was this which enabled me to pin point strategies and make connections between the tasks and examples of my behaviour. I feel I have learnt a lot in this short time and that there is still a lot more to explore. I am disappointed that we can't continue the research, but perhaps this introduction will enable me to be more self aware and more able to challenge my

routines and behaviour.

The graph below shows Lucy's BMI plotted over the course of 10 weekly cognitive remediation sessions. The two weeks prior and post treatment are also shown plus the 6 months post treatment. As shown, Lucy's BMI increased steadily from 15.0 to 16.2 kg/m² over the twice-weekly sessions. Eight weeks post cognitive remediation therapy, Lucy was discharged from an eating disorders inpatient programme with a BMI of 16.2 kg/m², and 6 months post cognitive remediation therapy her BMI was 16.4 kg/m².



Neuropsychological assessment

Before and after the 10 sessions of cognitive remediation therapy neuropsychological tests were carried out to assess improvement in flexibility and central coherence. For a full description of these assessments see Appendix C. On the Rey task central coherence score as global copy score increased from 1.76 at T1 to 2.0 at T2. On the Trails task the score did not improve as it took longer to join the dots at time 2 – from 23.6 seconds at T1 to 29.2 at T2. On the Brixton set-shifting task the score improved because of fewer errors at time 2 – 13 at T1 to 12 at T2. On the Haptic Illusion task, the score improved because perception of the change in ball size improved at T2 – from 10 at T1 to 9 at T2. Finally, on the Cat-Bat task the score improved as the omissions in the text were filled more quickly at time 2 – from 25 seconds at T1 to 15 seconds at T2.

Nadine

Personal history

Nadine, a 35-year-old woman, has a 16-year history of eating disorders. She started yo-yo dieting when she was 19 years old and this continued until she was 25 years old. She was 31 years old when she was diagnosed with anorexia nervosa. Her anorexia nervosa is of the restricting subtype and she suffers with mild depression and obsessive compulsive disorder.

During her adolescence, Nadine's mother and father had conflicting ideas about what each felt was right for her. She felt confused with her cultural identity (having parents of different ethnic and religious backgrounds). Nadine felt pulled in different directions and that she never quite pleased either her mother or her father. Her passion in life was

dancing and performing. As a child, she danced and was part of many productions. However, since her illness she no longer dances, but instead makes costumes for a dance company.

At the onset of her anorexia nervosa, there were many changes in Nadine's life. Promotion at work was not as she had imagined it to be. She found it hard to make friends in the company at which she worked, as staff were constantly changing. At a personal level, many of Nadine's friends were getting married, settling down and having children and this was also leading to feelings of isolation.

It was Nadine's fourth inpatient admission when she was offered cognitive remediation therapy. In the preceding 5 years she had received family therapy and cognitive-behavioural therapy whilst an outpatient. Nadine's BMI at the beginning of cognitive remediation therapy was 13.6 kg/m². Her BMI at the end of treatment was 15.2 kg/m². Her BMI at 6 months follow-up was 18.20 kg/m².

Exploring thinking styles in the first two sessions

The sessions took place once a week and lasted 10 weeks. The first two sessions were used to allow Nadine to get a sense of what cognitive remediation therapy entailed; to build a relationship with the therapist; and to start thinking about how the exercises made her think about her thinking. The therapist's aims for the first two sessions was to explore Nadine's strengths and weaknesses in terms of thinking style and to build a basic formulation plan for the rest of the sessions. Therefore, as many of the exercises as possible were covered in the first two sessions. At the end of each of these sessions the therapist asked Nadine some exploratory questions:

(1) *What did you learn from these tasks?* (2) *What did they show you about your thinking style?* (3) *How did the tasks relate to real life?* Here are some of the responses Nadine gave to these questions at the end of the first session.

'There are other things to consider...you don't always see the whole picture at first' (referring to the Illusions task).

'Automatic thoughts make you see things straight away...they [the tasks] help you see there are different sides to things.'

At the end of Session 2 Nadine's responses seem to be related more to her perfectionistic tendencies, as she reflected on the tasks with comments such as, 'That it is annoying me that I didn't see the two faces in Illusion task.'

'[I drew the] complex pictures badly and estimation is not perfect'; 'I like to do things as accurately and perfectly as possible – it really annoys me that I didn't draw the picture correctly'; 'I like symmetry and accuracy...I want everything to be perfect.'

Reflecting on Nadine's responses and watching her carry out the tasks, the therapist was able to get an impression of her cognitive strengths and weaknesses. These included black and white thinking; extreme perfectionism in completing the tasks; being very slow in executing the tasks; persistence in tasks/no multi-tasking and rule-bound thinking. The therapist's plan for the next eight sessions was: (1) to encourage Nadine to think flexibly and to explore alternative viewpoints and (2) to challenge Nadine's perfectionism by not completing tasks, to do two tasks simultaneously with less attention to detail on either, and to take a relaxed approach to the tasks.

Challenging thinking styles

The sessions began with a different task and proceeded in a different order for each session – this encourages flexibility. Nadine executed the tasks in a very slow fashion. It emerged that this was because she was scared of making a mistake. The therapist wished Nadine to be able to challenge this sort of thinking by encouraging her to make mistakes in the safe therapeutic environment. Therefore, in the switching tasks, such as the Stroop, Nadine was encouraged to go faster at the expense of making mistakes and to make rapid switches. In the Estimation task, the aim was to think in terms of estimates and approximations rather than exactness. So, as well as encouraging Nadine to do the task faster, the therapist encouraged Nadine to do the task with her eyes closed (also promoting risk taking), starting from different points on the page and using her non-dominant hand. Doing the task in these ways was a little bit uncomfortable for Nadine, because the effects at the end were not as good as she would have liked. Her comments associated with these thoughts were, 'Doing the tasks faster I feel less in control', 'I'm scared of making mistakes', and 'I like things to be completed just so'. Thus, Nadine was able to bring to the fore her thinking when confronted with doing something she felt was risky, that she was not in control of and not amounting to a perfect outcome. Her thinking patterns under these circumstances were discussed in association with situations from day-to-day life. Nadine found reflecting on her behaviours and thinking in relation to perfection and control insightful, as an awareness of her thinking style in many of these situations was something she had not been aware of, and she found it useful to consider the pros and cons of being less than perfect.

Relating strategies to real life

At the end of Sessions 7–9, Nadine was encouraged to think of behaviours and scenarios in 'real life' where strategies explored in the sessions could be trialled. Nadine decided that she would wear a different pair of earrings to the ones she usually wore, something she very rarely changed. Her second behavioural change related to the position of her mug in the cupboard. She placed her mug in the same position in the kitchen cupboard, feeling anxious if it was moved. However, on moving her mug to a new position, she found it was actually in a better place for access. The third change entailed not perfectly tidying away her slippers in her room. She managed to complete the behaviour changes and she and her therapist discussed other changes that could continue to be made after the 10 sessions had been completed. These included not tidying certain rooms at home at the weekends and letting her partner buy the grocery shopping.

Ending the therapy

At the end of Session 9, the idea of writing ending letters was introduced. The therapist asked Nadine to include her reflections on cognitive remediation therapy and what she felt she had gained from doing the sessions and any improvements she felt could be made to the treatment. Nadine was happy to do this. In the final session, letters were exchanged and read aloud.

Letter from therapist to patient

Dear Nadine,

We now draw to the end of the cognitive remediation therapy. It has been a pleasure to meet you Nadine, and to get to know you over the weeks.

I feel that over the course of the sessions you have begun to challenge your approach to thinking which is both empowering and a very positive step for you. I have written this letter as a way of summing up my observations from our sessions together.

I think as the sessions have progressed you have enjoyed the process of reflecting on the tasks, which you have done very well. You have found many of the tasks easy to execute and in particular you found the visual Illusions, Maps and Embedded Words Tasks effortless.

With reflection on the tasks you have been able to give examples as to how these concepts can be bridged to your everyday life. The topic of instinctive/analytic thinking has recurred quite often especially in response to the tasks that involved switching between saying what is written and how it is written (e.g. colour stroop). These tasks have led you to begin to identify when such instinctive and analytic thinking occurs. Among the examples you gave are scenarios such as having to do the ironing late at night, not being able to leave tabs on your curtains out of line, a stain on your carpet. You were able to ascertain from these examples that there is a conflict in your thinking surrounding many occurrences in your day-to-day life. I think this is a big achievement for you Nadine, because identifying differences in your thinking style means you can challenge them and therefore be flexible in your response to situations such as these.

I think the Complex pictures (describing the whole over the detail) and Estimation tasks allowed you to explore thinking processes behind your need for perfection. Many issues arose from these reflections, namely your fear of being judged negatively. It also allowed you to think about how you view other people and the fact that you don't have such high standards for others. This led you to reason 'why therefore should other people judge me critically' and we explored the fact that others will not be judging you like you judge yourself.

In a couple of the sessions I asked you to leave the Estimation task incomplete. Although you were initially a bit uncomfortable with this, you found a thinking strategy to tackle this and move on. This is an excellent accomplishment as it demonstrates you are able to leave something in an unfinished state – an act you were previously unsure about.

Be positive in your outlook and continue to use the thinking strategies you have found in the sessions. I wish you all the best for your future.

Best wishes,
Helen.

Letter from patient to therapist

Dear Helen,

Many thanks for offering me the chance to take part in the therapy sessions.

I actually found the session more helpful than I imagined. I learnt a lot about myself, discovering that I have other issues to address outside of my eating disorder, i.e. rituals, rules and beliefs. I have come to understand that many of them are linked to Anorexia so

resolving one without the other will not improve my chances of recovery alone but will simply shift the issues to another area.

I haven't, as yet, gained the solution to overcoming them, however, I have gained a great insight into what I need to work through.

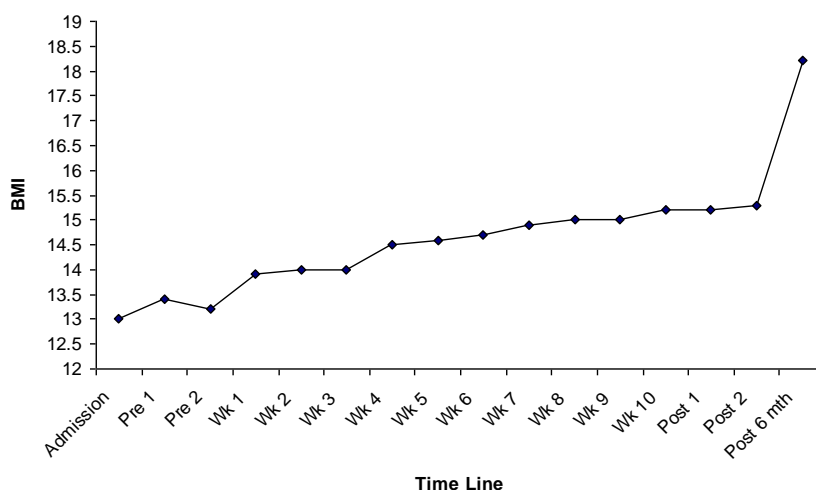
The exercises, sometimes, seemed as though they had no relevance to my illness and future, however, having the chance to discuss them in more detail helped me to see the importance of trying them out and that changes are possible and could lead to a positive effect on my life.

I think the sessions will be of great use to other sufferers of eating disorders and research and hope they continue for a better future.

Many thanks,

Nadine

The graph below shows Nadine's BMI plotted over the course of 10, once-weekly, cognitive remediation sessions. The two weeks prior and post therapy are also shown, plus 6 months post treatment. As shown, Nadine's BMI increased steadily from 13.90 kg/m² at the start of the cognitive remediation sessions to a BMI of 15.20 kg/m² at the last session. At 6 months post cognitive remediation treatment Nadine's BMI had increased to 18.20 kg/m².



Neuropsychological Assessment

On the Rey task there was no change in central coherence score. On the Trails task the score did not improve because it took longer to join the dots at time 2 – from 25.7 seconds at T1 to 31.7 seconds at T2. On the Brixton task there was an improvement at T2 as the number of errors decreased – from 11 at T1 to 9 at T2. On the Cat-Bat task there was no change and the time remained the same. Finally, for the Haptic Illusion task there was an improvement as the number of perseveration errors decreased – 25 at T1 to 12 at T2.

Emma

History

Emma started cognitive remediation therapy at the age of 21 years, soon after her admission to a specialist inpatient eating disorders ward. Emma's family began to notice that her weight loss and restrictive eating patterns had gradually intensified in the two years prior to her admission, becoming most noticeable following a holiday with friends. She was diagnosed with anorexia nervosa at 19 years old, although she feels that her anorexia started at the age of 15, without any obvious precipitating factors. At the start of the cognitive remediation sessions Emma's BMI was 12.1 kg/m².

Prior to her admission to hospital, she had successfully started to study music at degree-equivalent level, which she was unable to complete, and was working for an insurance company, but found the job stressful. Emma is a very high achieving young woman with a high IQ, despite which she has felt like a failure. Emma describes herself as a private person and a loner; she has few friends and a tendency to isolate herself, a behaviour that was obvious in the ward environment. At the time of her admission, she expressed feeling fed up with life, suffering with low mood, loss of sleep and poor concentration. She was suffering from high anxiety and depression as demonstrated by her scores on the Hospital and Anxiety Depression scale (Anxiety 21/21 and Depression 18/21).

Emma appeared to lack insight into her anorexia and was making little progress on the ward. She was having trouble engaging in other psychological interventions as part of the inpatient programme, including motivational enhancement therapy and cognitive-behavioural therapy, expressing that she found the emotional content too difficult to deal with .

Sessions

Emma was very quiet throughout the first few sessions, speaking in a low voice and rarely making eye contact. Encouragement was sought through tasks that required interaction and verbalization (e.g. Complex pictures task) with the therapist. Despite her shyness, Emma looked forward to the sessions, enjoyed the tasks and became increasingly engaged and confident in the sessions as they progressed. She attended all 10 sessions of cognitive remediation therapy, on average twice a week, over a six-week period, while continuing to engage actively in a full ward occupational therapy programme.

The goals of the initial sessions were to enable Emma to become familiar with the tasks and to strengthen the therapeutic relationship, in order to enable her to explore her thinking styles and behaviours in a safe environment. We covered as many of the tasks as possible, identifying areas of strength and weakness, without the more detailed reflection that takes place in the later sessions.

Although Emma had some difficulties with concentration during the sessions, she demonstrated early on that she was cognitively very able to perform well on the range of tasks. She used strategies to describe objects globally, to employ rules on a variety of 'switching tasks' and demonstrated some flexibility of thought. Throughout the sessions, Emma continued to successfully develop these thinking strategies and became quicker and more accurate in her performance. Her confidence in her cognitive abilities quickly

increased, and she responded well to praise and encouragement.

As the sessions progressed Emma was increasingly prompted to reflect on the thinking styles she was adopting to complete the tasks and to relate these styles to real life. The aim of this prompting was to assist Emma in gaining increased awareness into her thinking styles and behaviours. Once she was able to do so, behavioural homework tasks were set collaboratively so she could 'test out' some of these reflections in an everyday life setting.

Emma initially appeared to have difficulty relating the exercises to everyday life and expressed feelings of not really knowing what was expected of her, or what the therapist 'wanted' her to say. By Session 4, she was developing her ability to express and discuss the thinking styles used to complete the tasks; in particular, bigger picture thinking on tasks where she was required to focus on the whole picture as opposed to the detail of tasks. Emma was successfully able to use this thinking style during the Main Idea task and clearly relate this to tasks she had used in her previous job.

Emma enjoyed the Illusions tasks, as a reflection of her interest in art, and was able to relate this to areas of her life where she was less able to see different perspectives or 'sides of the story'. This often left her feeling annoyed and frustrated and in turn withdrawing further from social situations, an example she gave was of conversations with her Mum where both seemed to have difficulties in understanding the other's perspective. Emma felt that she was always very good at supporting other people to see things from different points of view, but felt that when it came to herself and particularly her eating disorder she was unable to see different perspectives. In relation to her anorexia, she commented that, 'I am completely reliant and trusting of what other people are saying at the moment, I can't always see it myself'. From the reflections in the sessions she was able to develop a strategy to help her to deal with her difficulties in seeing things from others' perspectives. Emma expressed that she had found it helpful to repeat the word 'perspective' to herself in situations where she was becoming frustrated when people were unable to see things from her point of view.

Emma also initially lacked insight and understanding into some of the more rigid behaviours and perfectionistic traits that she had adopted. Quite concretely, she viewed them only as practical and helpful habits. She was encouraged by the therapist to explore other aspects of her less flexible behaviours that were not so helpful to her. With direction and support, Emma was able to reflect on and later start to challenge some of these behaviours as homework exercises. In particular, she was able to challenge the order that she washed in the morning and to test out alternating her routines, without too much reported increased anxiety.

By Sessions 6 and 7 Emma also began to challenge her less flexible behaviours in other areas of her life in achievable steps; for example, listening to music in a different order at night time, listening to different radio stations in the morning, and wearing different make-up. Initially she felt that all of these behaviours only existed to serve very practical purposes, but through reflecting, she was able to explore and gain insight into how the behaviours may be more of a fixed part of her daily life. As a result, she reported realizing that she wasn't as flexible as she first believed and that she was enjoying trying new things out.

Emma's tendency to isolate herself on the ward was also explored as part of a more inflexible behaviour, which involved her sitting in the same room after meals away from others. She felt that this behaviour reinforced her feelings of low self-esteem and low

confidence. A behavioural homework task, which involved interaction and sitting in communal areas at times that she would usually isolate herself, were thus explored. Initially the thought of challenging this behaviour was anxiety provoking for Emma and she was frustrated with herself that something she viewed as very simple could be so challenging. With encouragement, Emma rose to this challenge and was able to interact with the other patients on the ward in a board game, at a time where she would usually isolate herself in a separate room. In the last sessions, we began focusing more on what we had covered and how she may be able to employ this in the future.

Outcomes

The most noticeable change in Emma over the 10 sessions of treatment was her increased confidence and self-esteem. Emma's increased confidence within the sessions around communication was not limited to the therapy setting alone, as she reported feeling more confident in other social situations, such as occupational therapy groups, commenting, 'I'm realizing that I'm not going to die if I speak'.

Emma also became increasingly able to reflect on how she was thinking. She began to challenge her existing thinking styles, and to explore new ones without the initial fear that she had of not saying what the therapist 'wanted'. She was successfully able to link these thinking styles with examples from her life and bridge these thinking styles to small behavioural tasks, such as wearing different make-up and sitting in different rooms following meal times. This process has also allowed Emma to gain increased insight into her rigid behaviours. It was encouraging to see that Emma felt able to be reflective without guidance between the sessions, and to set herself her own challenges in a flexible and spontaneous manner as situations arose. This will aid the application of what she has learnt from the sessions to situations within her own life in the future.

Ending letter from therapist to patient

Dear Emma,

We have now come to the end of our 10 cognitive remediation therapy sessions. I would like to review the progress you have made, and what we have covered. I would also like to thank you for your commitment and openness in the sessions, which has enabled us to cover a great deal in a relatively short period of time.

The purpose of the cognitive remediation work was to explore and reflect on thinking styles, in particular flexibility, seeing things from different perspectives, multi-tasking, and focusing on the bigger picture as opposed to focusing too much on detail.

From the beginning you were able to perform very well at the tasks, and to use the thinking styles effectively. Over the time you continued to develop, and worked out strategies to help you to complete them more easily and quickly. Through looking at the Illusions tasks we discussed the importance of being able to see other people's perspectives on things rather than just seeing 'one side of the story'. I have been impressed that you have already been able to draw on our discussions on this topic to help you outside of our sessions. You spoke about how you find it more difficult applying this to yourself than to others, and I believe this is something you will continue to work towards in the future.

You displayed good flexibility in your thinking styles through the 'switching' and 'manipulation' tasks that we covered. We spoke in great detail about flexible and rigid behaviours, and you initially felt that your life was not constrained by daily routines. I think that through doing the cognitive remediation therapy you have become more aware of, and surprised at times by, situations where your behaviours may be less flexible than you first thought. You were able to successfully make some good behavioural changes through being more flexible with the music that you listen to and the make-up that you wear.

I have also been impressed with your creative approach to relating the tasks to real life, and a variety of different situations. I feel initially that you found it more difficult to think of more practical or concrete real life examples, and behaviours that you could 'test out' in real life. I believe you found this difficult because many of the thinking styles and behaviours that we spoke about are most challenging to you in anxiety-provoking or emotionally difficult situations, in particular meal times. I have been very impressed that you have already started to reflect on these situations, and 'tested' out being more flexible despite that challenging nature of these situations. I hope that in the future you will be able to use some of the thinking styles and things we have discussed, to tackle these behaviours in manageable steps.

A further clear strength of yours is your ability to do the tasks which required you to be descriptive or to give instructions, such as the map reading or describing of the shapes for me to draw. We spoke about how it is helpful to focus on the larger structure of the shapes as a whole and not to get too bogged down in the details of the pictures. We also discussed how the way you describe things needs to be appropriate to the person that you are talking to – not to assume that they know what you know or can see what you can. This I feel you have been able to relate well to real life, and in various conversations with others.

Most noticeably I have seen your confidence and self-esteem grow throughout the sessions. This has been reflected in the way that you have approached the tasks. As you said, you feel you have already been able to take some of this increased confidence and use it in other situations, such as your OT sessions. We spoke about how you find other, more 'emotional', therapies less enjoyable, and that it may be possible to use your experience of cognitive remediation and to increase confidence in other therapies.

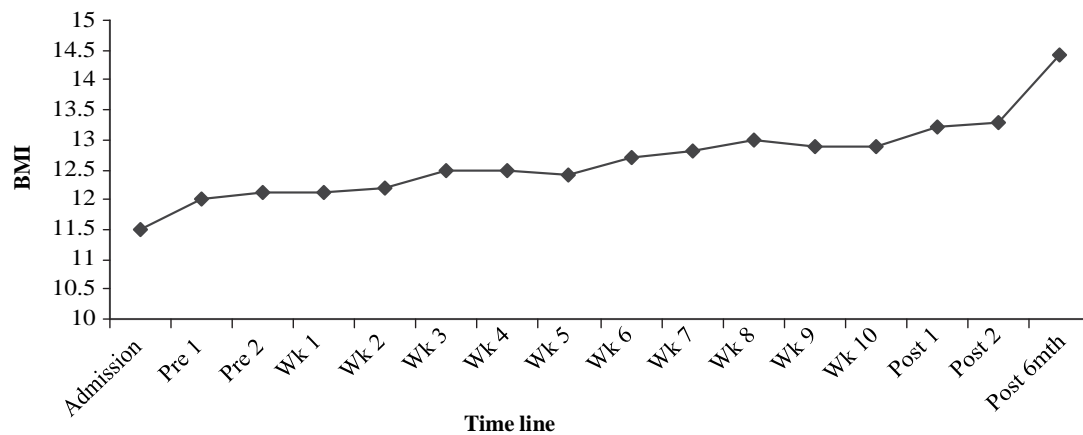
You have been able to demonstrate the ability to take what we have discussed in the session and apply it to situations as they arise, rather than planning for them, and to take 'a flexible approach to being flexible!' I feel this will enable you to use your experience of cognitive remediation therapy well in the future, as you approach new situations.

I hope that these sessions have helped you to reflect on the ways you think, and that with your naturally creative and inquisitive mind you will be able to make use of them in the future.

All the best,
Abby

The graph below shows Emma's BMI plotted over the course of six, twice-weekly, cognitive remediation sessions. The two weeks prior to and post treatment are also shown, plus the value at 6 months post treatment. There were two weeks between inpatient admission and Pre 2 weeks. As shown, Emma's BMI increased steadily from 12.10 kg/m² at the start of the sessions to a BMI of 12.90 kg/m² at the last session. At 6

months post cognitive remediation therapy Emma's BMI had increased to 14.40 kg/m².



Neuropsychological Assessment

On the Rey task central coherence score improved because global copy score increased at time 2 from 1.59 at T1 to 1.91 at T2. On the Trails task the score improved as the dots were joined more quickly at time 2 – from 33.94 seconds at T1 to 19.24 at T2. On the Brixton set-shifting task the score improved because there were fewer errors at time 2 – from 7 at T1 to 4 at T2. On the Cat-Bat task the score improved because the omissions in the text were filled in more quickly at time 2 – from 25 seconds at T1 to 13 seconds at T2. Finally, on the Haptic Illusion task there was no change.

Sarah

History

Sarah is an 18 year old woman with a six year history of Anorexia Nervosa who was admitted to the inpatient unit with a Body Mass Index of 13.5. Sarah began restricting her food intake at the age of 12 following the move to another country with her family and some subsequent bullying at school, which centred mainly on the fact she was from a different culture but also the dietary requirements relevant to her culture. This was soon followed by purging behaviour as a means of self punishment. This behaviour became a daily occurrence and when admitted to the ward Sarah had been purging every day for the previous 4 years. Sarah has had two previous hospital admissions. Sarah was admitted to a children's psychiatric unit and later a general psychiatric unit, but she did not feel this

treatment was useful however and had lost a significant amount of weight after discharge. Sarah was referred to this service due to a lack of specialist eating disorder services where she lived.

Sarah was a high achiever studying for four A Levels during her admission in the unit. This was causing her significant anxiety and stress as she was particularly concerned with achieving top marks in her exams despite being in hospital. Due to her experiences of bullying at school and the severity of her eating disorder, Sarah had been socially isolated for most of her teenage years and relied solely on her family for company and support. At the beginning of her treatment Sarah displayed several eating disordered behaviours at meal times, such as smearing and hiding food, and was finding it difficult to cope with the demands of re-feeding and the ward routine. Sarah presented on the ward as assertive and vocal in communicating her needs and expectations for treatment. She was keen to start individual psychological work and was initially disappointed to be seen by a cognitive remediation therapist and not a “proper psychologist”. However she agreed to begin cognitive remediation therapy sessions.

Introducing cognitive remediation therapy

Cognitive remediation therapy was introduced as an intervention based on research evidence that shows that we all have particular thinking styles and it is based on the idea that, with practice, we can train our brain to improve certain skills and strategies that may help us. The therapist likened it to brain training games which Sarah was familiar with and reported she had enjoyed. This seemed to improve her level of interest in engaging in cognitive remediation therapy. It was also highlighted that this psychological intervention was concerned with learning more about Sarah’s thinking style and everyday life and was not designed to cover eating weight and shape issues.

Bigger Picture vs. Detail Focus- Exercises

Using the Complex pictures task the therapist explored with Sarah her ability to think and communicate in a gistful/holistic fashion. Sarah described the Complex pictures starting with the larger elements and later adding the details, which was a successful strategy. Through discussion, Sarah was able to identify that this was the strategy she had been aiming for and was pleased with the result.

The Main Idea task was more challenging for Sarah. The first time she summarised the chosen letter she almost repeated the original word for word. The therapist encouraged her to summarise again but this time in bullet points. Sarah used paper and pencil to help her with this task and after several repetitions, managed to condense the information into the main important messages.

Another challenge for Sarah was describing a picture of a busy street scene. The exercise involved both Sarah and the therapist writing a description of what they could see in the picture. Sarah wrote several paragraphs describing several details whereas the therapist wrote a few bullet points outlining the main components of the scene. Sarah reflected that these tasks had been hard as she had not wanted to leave anything out for fear of not being fully understood or leaving out something important. Through reflection

she realised that sometimes including too much detail can confuse a listener and also lead to being misunderstood.

Bigger Picture vs. Detail Focus – Reflections on Everyday Life

When asked whether she was able to look at the bigger picture elsewhere in life or whether she tended to be concerned with details Sarah said she was much more concerned with details in her every day life. She described herself as being very “analytical”, often becoming overwhelmed when thinking about all the difficulties or problems she would like to tackle. Sarah gave the example that if she had a list of five things to do and managed to do four of them, she would focus on the one she hadn’t managed to do as opposed to the four she had, and would consequently feel like a failure. This was relevant in her school work as she placed significant pressure on herself to complete every small piece of work perfectly which made it very difficult to prioritise and hold the larger aims of her studies in mind. This often led to a lot of stress and anxiety around school work and a fear of running out of time.

Sarah also talked about using a lot of detail when communicating. Sarah felt this was a problem for her as she found it difficult to make ‘small talk’. She often finds it hard to follow the gist of conversations and is very concerned with providing enough information and filling any gaps in conversations. She felt this may explain why she found it difficult to make friends as people often get lost in conversations with her.

Sarah often talked about missing her family while she was on the ward and found it hard to be reassured that they still cared for her. Sarah found it difficult to understand that her family could hold her in mind even when they are not with her.

Sarah was given positive feedback about her strategy in the Complex pictures task and her ability to eventually condense the letters in the Main Idea task. It was emphasised how these tasks reflect that she has the ability to look at the bigger picture and that with practice hopefully she would be able to strengthen this ability and use it more in everyday life.

Bigger Picture vs. Detail Focus- Practice

From the first session it was clear that Sarah had great difficulty in seeing the bigger picture in life and shifting her attention away from the difficulties she was having managing the treatment on the unit, in particular meal times. She was preoccupied with the negative aspects of treatment and recovery and found it hard to focus on any positives. To address this it was helpful to begin each session with a summary of how things had changed or improved since the beginning of admission instead of being caught up in the meal she had just eaten or what had happened that morning. As the weeks progressed Sarah became more able to see her admission as a whole and the time span she was focusing on in reflections became larger. In later sessions Sarah was able to reflect that she was going out more than when she first arrived, she had more energy through improved nutrition and that her mood had improved.

Meals were a time when becoming preoccupied with the details of what she was eating was most problematic for Sarah and often resulted in eating disordered behaviours at the dining table. Sarah was encouraged to think about her future as a way of practicing bigger

picture thinking and was asked to complete a flash card with reasons to recover and the things she would like to achieve in life. This included walking on the beach, having a family and having a career. Sarah found this very helpful during mealtimes and reported it was a useful distraction from thinking about the food.

Flexibility – Exercises

Throughout the 8 sessions Sarah completed several tasks that involved switching and flexible thinking. Sarah found the Stroop and Embedded Words switching exercises particularly difficult. She tended to be slow at first but increasing her pace during the task. These tasks were repeated in several sessions throughout the intervention and Sarah became much more confident and comfortable doing them.

It should be noted that English is not Sarah's first language. The switching tasks in particular require the person to make quick judgements about words which may have been more difficult for Sarah. However she was able to complete these tasks.

Through reflection, Sarah was quite able to realise that to complete these tasks one would need to be flexible and be able to adapt quickly to new information. Sarah acknowledged that this was something she generally finds difficult and would like to practice. She generally enjoyed the switching tasks and found them to be an appealing challenge.

Flexibility - Reflections on Everyday Life

When discussing flexible thinking in relation to the tasks Sarah recognised that she could be very rigid in her daily routines but was initially reluctant to share more details in the cognitive remediation therapy sessions.

Sarah expressed a desire to be more carefree and spontaneous like her Mother and Sister but explained she felt she was more structured and rule driven like her Father. She feared that perhaps she born with these traits and would not be able to change. We discussed how the brain is 'plastic' and can be 'moulded' and adapted with training. It was also emphasised that the aim of the therapy was not to remove any traits that someone may have, but simply to enhance others so as to encourage a broader repertoire of skills.

By session 4 Sarah felt able to describe her morning routine to the therapist which involved a strict regime from the moment she got up. In particular Sarah would complete her morning bathroom routine in the same order each day and would then need to include certain amount of time for exercise and for prayer. Sarah explained that this routine made her feel safe and able to face the day. She was also able to see however that it was time consuming and there are times when things outside of her control would interfere for example another patient in the bathroom at the time she wanted to use it. Sarah expressed a wish to be more flexible and be able to 'go with the flow'. She was able to see that this would be useful when we are in unfamiliar situations and gave the example of being on holiday with another family.

As mentioned, Sarah was studying for her A Levels during her admission. This was something she was struggling with and found it very difficult to revise whilst on the ward. She complained of being interrupted or distracted by the ward routine e.g. bloods being

taken, physical observations by the nursing team. On reflection Sarah was able to see that these distractions only lasted a few minutes but she found it almost impossible to switch her attention back to her school work once she had been distracted.

It was discussed in session how Sarah did have the ability to be flexible but that perhaps she lacked confidence in her abilities. Her language abilities were given as an example as Sarah spoke three languages. Sarah was encouraged to talk about how initially it was difficult to talk to different members of her family in different languages but was reminded of how she now manages it flawlessly. This shows great flexibility of thinking. Sarah found it difficult to accept this strength in herself.

Flexibility – Practice

During the sessions Sarah found it hard to switch her attention from discussing meal times and felt that the focus of her day was all around meals. The tasks were used as a basis for discussions around Sarah being able to switch attention away from certain things that were outside of her control (such as mealtimes) and focus on the things that she could control. It was highlighted that if Sarah filled the time around meal times with other activities then it would be easier to switch her attention away from thinking about meal times. In the session Sarah wrote a list of activities that she would enjoy and that she could chose to do.

After discussions around Sarah's morning rituals she was asked if there was anything small she felt she could change around in order to practice flexibility. Sarah chose to brush her teeth after her shower instead of before. By the next session Sarah had practiced this three times. She reflected that the first had been difficult but after that it was easier and she was keen to choose something else in her routine to challenge. Sarah chose in the session to challenge her exercise routine before lunchtime which included star jumps in her bedroom. To tackle this Sarah was going to make sure she was in communal areas before lunchtime to practice switching her attention away from the need to exercise.

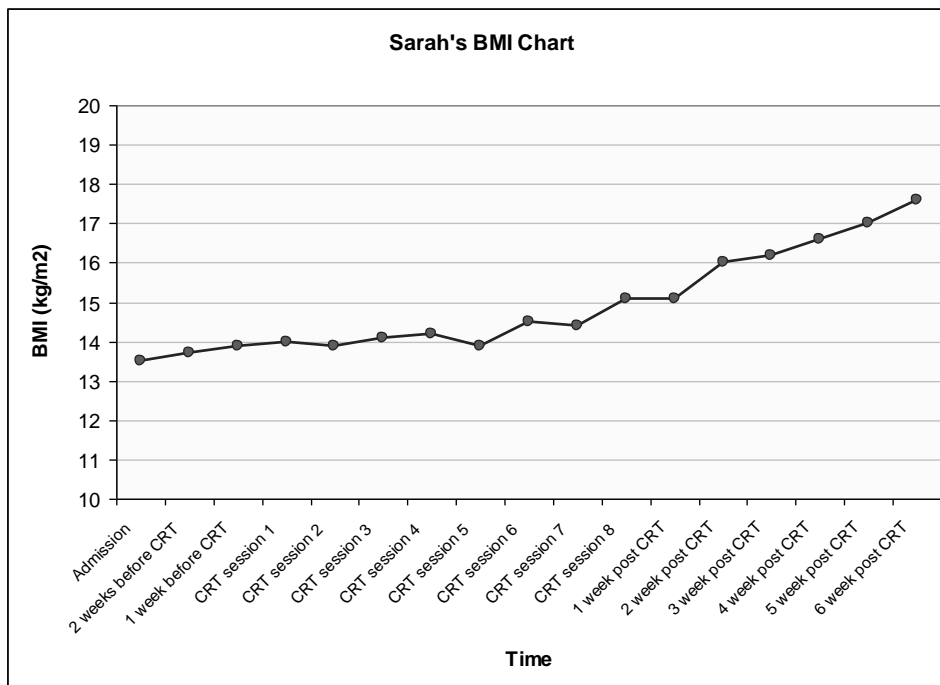
It was observed by the therapist that Sarah always wore her hair styled in the same way everyday (in a plait over her right shoulder). She was asked if she could style her hair differently which she said she would find very difficult. The therapist promised to wear her hair differently to the next session to show collaboration. Sarah was unable to change her hairstyle initially however and it was only on the 7th session that she was able to disclose that this was because she hid food in it. Sarah felt a sense of relief for disclosing this and with her own initiative started wearing her hair in many different styles. The therapist gave a lot of positive feedback for this and it was observed that Sarah had many compliments from other patients and staff.

By the final session Sarah had begun challenging her vomiting. Sarah disclosed that she had not gone a day without vomiting for the previous four years. She felt she had gathered the confidence and motivation to begin challenging this and by the final session reported that she had not vomited for one week. Sarah has continued to challenge this behaviour throughout the remainder of her admission. This was a remarkable achievement for her and whilst it was not something that was directly addressed in the cognitive remediation therapy sessions, the motivational approach and encouragement of behavioural challenges may have contributed to Sarah's ability to start tackling this impediment.

Sarah's comments on cognitive remediation therapy:

"I found cognitive remediation therapy very helpful. It opened new doors to my way of thinking. I never knew I was able to alter my mind and become the person I wanted to be. Before, I thought that is just the way my mind works and not even bother to challenge it. But now I have realised I have the keys to open my mind to positive changes."

The graph in below shows Sarah's BMI plotted over the course of six, twice-weekly, cognitive remediation sessions. The two weeks prior to and post treatment are also shown, plus the value at 6 weeks post treatment.



Neuropsychological Assessment

On the Rey task Sarah's central coherence index increased from 0.96 before cognitive remediation therapy to 1.14 after cognitive remediation therapy suggesting the way in which she processed the figure had become more global.

The Brixton task counts the number of errors the respondent makes. Sarah made 12 errors before cognitive remediation therapy putting her score within the 'high average' range. Following cognitive remediation therapy she only made 4 errors moving her score into the 'very superior' range.

Jo

Personal History

Jo, a 26-year-old woman, had a 1-year history of Anorexia Nervosa (binge-purge subtype). She reported that she had begun to diet when she was 25 and from this point on began to lose significant amounts of weight.

When Jo started secondary school, she experienced bullying which impacted on her self-esteem. She also had high expectations placed on her at school, and in turn put these on herself. At the age of 12 years old she began to self-harm and was referred to Child and Adolescent Mental Health Services (CAMHS) at the age of 15. Jo was experiencing low mood, anxiety and panic attacks and was self-harming on a regular basis. She received individual therapy for over a year which she found helpful.

During the onset of her eating disorder, Jo was experiencing low mood and low self-esteem. Originally her reason for dieting was to have a slimmer body but soon her life became very pre-occupied with dieting and exercise. The subsequent weight loss gave her a sense of achievement and control in her life and Jo created rigid rules regarding food and exercise such as 'I must be the best and I need to be perfect' and had obsessive tendencies in relation to these rules. Jo reported that her eating disorder became a good distraction as she did not have to face up to difficult feelings or responsibilities and it provided a sense of self-control and being good at something.

Jo had no prior contact with Eating Disorder services and this was her first admission into hospital. Before her admission to hospital, Jo had completed a university degree in English literature and was in full-time employment. She had previously also worked as a drug outreach worker and then as a teacher.

Her desired changes were to have a more relaxed outlook to life, be less rigid, and to develop more balanced thinking with regard to food and exercise.

It was during this first inpatient admission for an Eating Disorder that Jo was offered Cognitive Remediation Therapy. Her BMI at the beginning of Cognitive Remediation Therapy was 15.4 and at the end of the intervention it was 17.4.

An introduction to cognitive remediation therapy: exploring thinking styles and strategies

The 8 cognitive remediation sessions took place twice-weekly, and lasted 30-45 minutes. The first two sessions focused on introducing Jo to the concept of cognitive remediation therapy and on thinking about how the exercises could be used to reflect on thinking styles and strategies.

After each task, Jo was encouraged to think about how she had found the task, how she had completed it and what strategies she had used. The pros and cons of the

strategy were then discussed, as well as any alternative strategies she could have used. Jo was then encouraged to reflect on her use of these strategies in her everyday life. These reflections allowed Jo to think about her thinking style and how she could incorporate alternative strategies as well as more flexibility into her everyday life.

At the end of every session, Jo and the therapist looked at what had been covered in the session, i.e. what Jo felt she had learnt about her thinking styles and how they relate to her everyday life, and then thinking about behavioural challenges she could try before the next session.

Challenging thinking styles

The first task that was used to explore the concept of the bigger picture was the 'Complex Shapes' task. Jo carried out the task in a very detailed way (e.g. the instructions she gave to the therapist about the figure included information about centimetres and degrees of angles). She was also rather hesitant and often rephrased instructions to ensure they were as comprehensive as possible. Jo and the therapist reflected on how, although the figure was reproduced rather accurately by the therapist, that such detailed instructions could be overwhelming. This led on to thinking about Jo's everyday life and how, at work, she often had to convey a lot of detailed information in e-mails to colleagues: it was discussed that, although focusing on details is useful in some situations, it can also be confusing or overwhelming, therefore it could be useful to think about the context or situation in which the information had to be relayed.

This was further explored in the 'Main Idea' task where Jo condensed vast amounts of information into bullet points, summarised the text and gave it a short title. Jo reflected that avoiding getting stuck in the details was useful when conveying detailed information.

In order to explore switching, the therapist chose to firstly focus on the 'Illusions' task. Jo was able to see both images and different aspects of the picture quickly, and was able to switch between them. In fact, Jo explained that she enjoys multi-tasking and that she does this a lot at work. This concept of switching was used to explore how Jo could use this strength to switch from one perspective to another when, for example, disagreeing with someone about something.

In the more complex pictures in the 'Illusions' task, although Jo was able to see both images, she found it trickier to focus on just one image, as she would become aware of details from the other image. Jo and therapist explored how details can in fact be distracting and that it is important to see the bigger picture to avoid getting stuck on one detail at the expense of the rest. This was further explored in other switching tasks and Jo reported that she could see how bearing in the mind the bigger picture could help her when she is anxious and getting stuck on a particular detail.

Finally, the 'Stroop' task was used to explore flexibility further, and Jo reflected that during her admission to the inpatient unit, she had had to completely change her lifestyle and be flexible, and that she was pleased that she been able to do this. Furthermore, this tied in with Jo's need for things to be done perfectly, and she could see how this was not a helpful thinking style as being flexible allowed her more freedom.

The 'Estimation' task was used throughout the sessions to challenge Jo's need for perfection, and though at the beginning she found it difficult to complete the task quickly and roughly estimating the middle of the lines, towards the end she was able to complete it quickly and without being overly concerned about the accuracy. Jo reported that her need for perfection was present in many aspects of her life, and that, for example, she would not allow mistakes in her drawings and sketches and also ate things in a particular order.

Throughout cognitive remediation therapy, Jo explored this need for perfection and reflected that she could allow herself to be more spontaneous and more flexible overall.

Behavioural tasks

Throughout the sessions, Jo and the therapist thought of behavioural tasks that Jo could attempt in-between the sessions to try alternative strategies in dealing with everyday life situations, and challenges she could set herself to change a specific routine or habit.

Firstly, Jo attempted to gain flexibility in the dining room and challenged her usual behaviours. She also tried to relax more after meals and tried to be more open in ward groups. Other challenges that were discussed in the sessions were allowing mistakes in her sketches and drawings, and also accepting things such as chips and imperfections in her nail varnish which she would normally not have accepted.

From the start, Jo was keen to try out these behavioural challenges and not only successfully attempted the ones discussed in the sessions but also came up with others which she then discussed in the following session with the therapist.

Ending the therapy

At the end of session 8, the idea of ending letters was introduced. Jo was asked to reflect on the work she had completed as part of cognitive remediation therapy and what she felt she had gained throughout the intervention. The therapist wrote a letter to Jo, summarising the work done during the sessions and an ending session was booked where the therapist and Jo met to read their letters aloud and then exchange them. It was an opportunity to reflect together about the intervention as a whole, what Jo felt she had achieved and what she could do in the future.

Throughout cognitive remediation therapy, Jo was motivated to engage in this intervention. She presented as insightful regarding her difficulties and the negative impact the eating disorder was having on her life. Jo was reflective during the sessions and was motivated regarding making behavioural changes and thinking about further behavioural challenges.

Letter from therapist to Jo

Dear Jo,

We've now finished our eight sessions of cognitive remediation therapy and I want to say that it's been a pleasure to meet and work with you. Thank you very much for your hard work and commitment over the last few weeks. As I explained, here is my letter to you, summarising my thoughts about the work we did together.

The purpose of our work together was to explore and reflect on thinking styles, in particular flexibility, seeing things from different perspectives, multitasking, and focusing on the bigger picture as opposed to focusing too much on detail. I feel that over the course of the sessions you have begun to challenge yourself and your approach to thinking which is a positive step.

From the beginning, you had no real trouble with any of the tasks and I've been impressed with how well you've been able to reflect on your thinking styles, both in the tasks within the sessions and in everyday life.

When we worked on the 'Complex Shapes' task, we discussed how it was more difficult for me to draw the shape when you described more details. Also, as I drew the shape correctly on most occasions, with or without overly detailed instructions, we reflected on how a bigger picture approach was useful and that details were perhaps not that necessary in this context.

Throughout the sessions, you found the multitasking easy as you explained that you regularly have to multitask at work, and condense large amounts of information. You gave the example of having to email a colleague with the most important pieces of information that you gathered from a long and detailed interview with a client.

You were also particularly good at the 'main idea' task where you had to summarise a letter in three bullet points. We discussed the strategies you used to do this task and you said that you tried to draw the main, most important themes from the letter, and ignore the irrelevant details. You made suggestions for how you would improve the text to make it clearer and to improve the overall structure.

Also, a strength of yours was seeing both pictures in the 'Illusions' tasks and you said that you are good at seeing both sides of a story and seeing someone else's perspective on a discussion, for example.

We also did 'switching' cognitive exercises though you found these less enjoyable, as they can be tricky and confusing. However you were able to reflect on your thinking style and gave a great example of having to be flexible and of switching: since you have been on the ward, you have had to change your whole lifestyle and normal routines such as work.

Throughout the sessions, we also discussed the need for things to be very accurate, 'just right', and your strive for perfection, for example when sketching and drawing. The 'Estimation' task was useful as it allowed us to explore your need for things to be done as accurately as possible. At the beginning, it was difficult for you to do this exercise quickly

and roughly estimating the middle of the lines; however towards the end of our sessions, you could do it rather quickly, and weren't overly concerned about some of them not being as accurate as they could have been. You were able to successfully make some good behavioural changes through being more flexible with your nail varnish: you were able to accept that it was chipped and not redo it all as you normally would have done.

Overall, trying to not be very hard on yourself about things is an excellent strategy and one that I hope you will be able to put into practice, not only for this but also for other areas of life.

In summary, I think that the Complex Shapes task and the Estimation tasks allowed you to explore thinking processes behind your need for perfection and we explored the fact that things don't always need to be perfect and very detailed to be accurate.

You have also started to reflect on emotionally difficult situations and 'tested' out being more flexible despite the challenging nature of these situations and I hope that in the future you will be able to use some of the thinking styles and things we have discussed, to tackle these behaviours in manageable steps.

I've really enjoyed our sessions together and I hope you feel that you've learned some things about the way that you think, from some of the strategies that you used in the sessions. I hope I can also encourage you to keep practising them in other areas of your life – at work or at home.

I wish you all the best for your future and for your recovery.

Best wishes,

Naima

Letter from patient to therapist - Extracts

"...I'd like to thank you for all your work and for spending time over the past few weeks to go through the cognitive remediation therapy programme with me. I have enjoyed the sessions and found them very useful; I hope I can apply what I've learnt to my life."

"At first, I found it difficult to understand how the exercises could have a practical application. However you were always very helpful at showing me how to apply the ideas to real life situations, and helped me with examples when I needed. I found it helpful that you asked me to think about real scenarios that I could apply the different ideas, because this helped me make the link from the paper exercises to making actual changes."

Bigger picture:

"...I've found the concept of looking at the bigger picture in life [...] to be a useful strategy in helping me manage my anxieties about eating. [...] I've tried to remind myself that in the

content of my life as a whole, weight is only one part of who I am and should not be the most important thing. [...] I've also used it when I've become worried about my weight gain and become caught up in anxieties about getting fatter – I've tried to remind myself that in the content of my life as a whole, weight is only one part of who I am and should not be the most important thing.[...] It's also helped me to start to think about the bigger picture of my recovery and to see that eating and gaining weight is only one aspect of ensuring I become well and happy – looking at the bigger picture over all, I can see now that I need to address a lot of issues and make many changes. I can see now that I became caught up in the detail of dieting as a distraction on facing the bigger realities and responsibilities in life.”

Estimation task:

“...I've also taken the idea of being of relaxed and flexible in my thinking and approach to life from tasks such as the estimation task. This has taught me that I should be more relaxed and less perfectionistic and governed by rules or 'shoulds' because there is very little negative impact from doing so. I have applied this to things such as my attitude towards calories, trying to be less rigid because being a few calories short or over my meal plan shouldn't be so important, and also that I shouldn't feel guilty and fear negative consequences if I don't stick exactly to what I feel to be the 'perfect' food choices. [...] Although I set myself high standards and strive to be perfect, I have started to try and consider that I can afford to be a little more relaxed on myself because in reality the differences that are outwardly noticeable to other people are probably very small, even when I feel very bad about not maintaining the high standards I set myself.

Illusions task:

“... I have also realised the importance of being more flexible and relaxed in my thinking from tasks such as the changing picture exercises. These have taught me to try and see other people's perspectives on things, and reminded me to take on board the options and ideas of others even when I have difficulty seeing it myself.”

“I have also thought, promoted by the tasks, that perhaps there is more than one way to view myself, and that maybe I can be seen as not all bad, and also that other people might be viewing me and judging me on things other than my weight or clothes size.”

“...I have tried to use what I have learnt to be more flexible in how I spend my spare time. Instead of doing things like exercises because I feel I should, and getting caught up in thinking about details such as how many calories I should be burning, or what work I have to do, I have tried to allow myself to 'enjoy the moment' more and take time to relax and not feel as though I should be being productive.”

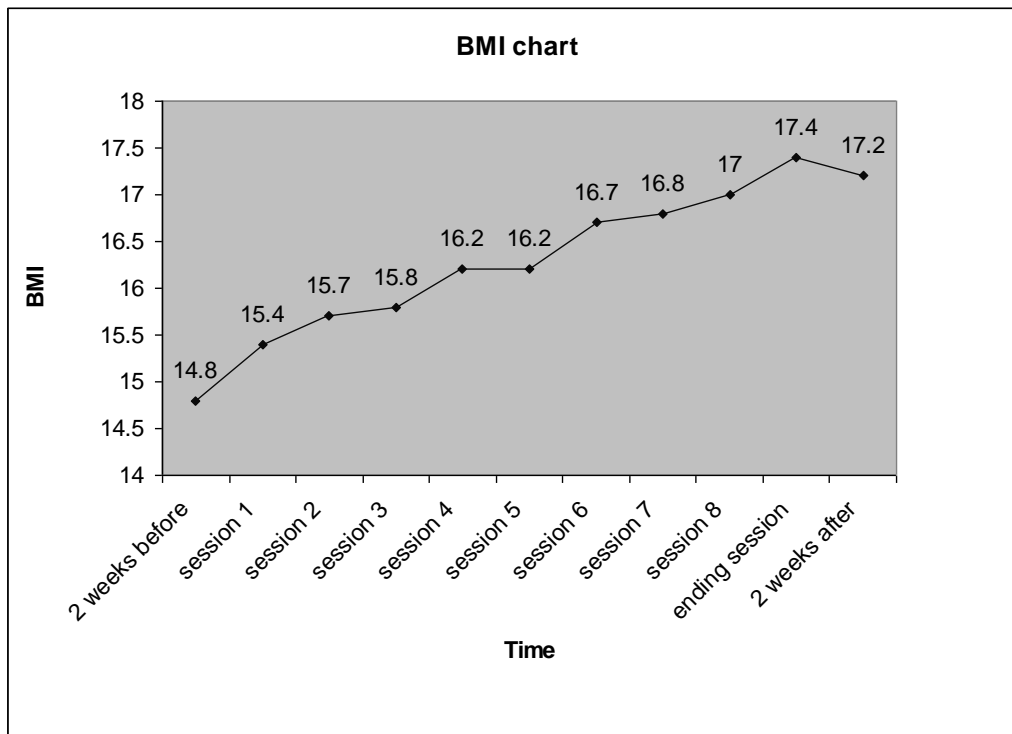
“Thank you for all your time, support and help, I really appreciate it and think I have benefited from starting to gain a new perspective and approach, which I hope will allow me to be more relaxed and flexible both with my weight and eating and in my life in general.”

Best wishes,

Jo

The graph below shows Jo's BMI plotted over the course of eight, twice-weekly, Cognitive Remediation Therapy sessions. Her BMIs two weeks prior and post therapy are also shown.

As shown, Jo's BMI increased steadily from 15.4 at the start of cognitive remediation therapy to 17.4 at the last session.



Neuropsychological Assessment

On the Rey task Jo's central coherence index decreased from 1.85 before treatment to 1.49 after cognitive remediation therapy. The Brixton task counts the number of errors the respondent makes. Jo made 7 errors before treatment and only 5 errors after cognitive remediation therapy.

CHAPTER

5

Cognitive remediation therapy for anorexia in group format

Background

There is an increasing demand for shorter hospital admissions for patients with Anorexia Nervosa (Vandereycken, 2003), and a move towards more intensive treatment in other, less expensive settings such as day hospitals is developing (Zipfel, 2002). Furthermore, there is increasing pressure on health services to provide short form, effective treatments for AN.

One way to address this demand is to provide therapies in group format. This can provide particular benefits for patients with AN and can be cost effective for the service. Patients with AN tend to be socially isolated, have high anxiety in social situations (Troop et al, 2003.) and suffer low self esteem (e.g. Cooper and Turner, 2000). Encouraging engagement in group therapies can provide a safe space for patients to explore topics with others who may share their difficulties thus promoting social interaction and improved self confidence. A group intervention based on cognitive remediation therapy may be particularly useful in engaging patients in group therapies as the topics covered are not as anxiety provoking as in groups which focus on eating disorder symptoms and behaviours, or body image concerns, and may therefore be more tolerable to patients. This chapter will describe the development and piloting of cognitive remediation therapy for AN into a group format.

The Flexibility Group' – The development of cognitive remediation therapy in group format

A pilot of cognitive remediation therapy in a group format was set up in the Eating Disorder Service of the South London and Maudsley NHS Trust to be delivered to inpatients, day patients and those in residential rehabilitation. It was decided to call the intervention the 'Flexibility workshop' to make it more accessible to patients who were not familiar with the term cognitive remediation therapy. Those working on the pilot were mindful that the target patients to receive the group intervention may have had, or be going to have, individual cognitive remediation therapy sessions so it was decided to attempt to include some novel exercises in the group sessions. There was also a need to make sure the exercises were acceptable to patients in a group situation whilst still being interactive in nature to make use of the group format most efficiently. As with individual cognitive remediation therapy, the aim of the group sessions was to practice global and flexible thinking but with the support of peer group members and group facilitators. All sessions were designed to include the following elements: psycho-education, practical exercises, reflection and discussion within the session, and the planning of homework tasks. Continual discussion relating the exercises and homework tasks to real life thoughts and behaviours also remained an essential part of the reflection process.

The aims of the pilot were not only to explore whether participation in the group would enhance cognitive skills, but also whether there were any secondary gains in improving self esteem and motivation. Outcome measures were used to evaluate the groups' effectiveness in improving these areas and also its acceptability to the patient group. The outcome measures used are outlined after the session plans below.

The length of the intervention was decided to be 4 weekly sessions. This decision was influenced in part by the fact that the group was an unfunded pilot and also by the average length of inpatient admission at the time, which had been decreasing:

The groups have been designed to be delivered by multi disciplinary staff members with two facilitators per group. The facilitators' stance aimed to be enthusiastic, motivational, collaborative and interactive. The sessions are an *exploration* of the different thinking styles of the group members: there are no right or wrong ways of thinking but rather pros and cons to each. The main difference between the individual and group formats of cognitive remediation therapy are that the group format is much shorter thus the reflections and relation to everyday life should be initiated much earlier. However, with several group members, and two facilitators' contributions, these reflections tend to arise more easily in the early sessions.

Thus, four group sessions were planned and implemented, the outline of each session is provided below.

Session 1 – Introduction and Bigger Picture Thinking

Welcome to the group and ground rules

Group members are welcomed and a few minutes are spent discussing general ground rules for group attendance such as mutual respect, time keeping and confidentiality. The group were also asked if they would like to keep the four sessions opened or closed to new members. In most cases group members requested closed groups and as facilitators we discovered that this did indeed allow for greater continuity between sessions.

Introduction to cognitive remediation therapy

Group facilitators should give a brief explanation of the basis of the group in much the same way as one would introduce individual cognitive remediation therapy sessions to a patient. It should be emphasised that the sessions are designed to be interactive and not necessarily focused on eating, weight and shape. E.g:

“The idea behind this group is to help people think about thinking. In everyday life we don’t often stop and think about how we think - we tend to do the things the same way day in day out without really thinking about it – like we are on autopilot. Our brains get used to these ways of thinking and this means we often find it difficult to adapt when we need to.

The idea of this group is for us to do some games and puzzles that will help us identify our thinking strategies in everyday life and explore whether there might be alternative ways of doing things.”

A short task at the beginning of the session can provide a simple demonstration of the ideas behind the group and act as an ice breaker:

Handwriting Task

Group members are given a sheet of paper and a pen and simply asked to write their name with their dominant hand. They are then asked to do the same but with their non-dominant hand. Facilitators can do the same so as to demonstrate the interactive nature of the group and to engage patients in the process.

The group are then asked if they would like to share their sheets with the group and discuss how it felt to write with the non dominant hand. Facilitators can share their experiences too.

The aim of the exercise is to demonstrate how we all have certain ways of doing things which feel comfortable and most of our everyday habits are automatic. However, the exercise shows us that although we all find it difficult to do things another way, our brains will allow us to do it and with practice it should become easier.

Describing Task in Pairs

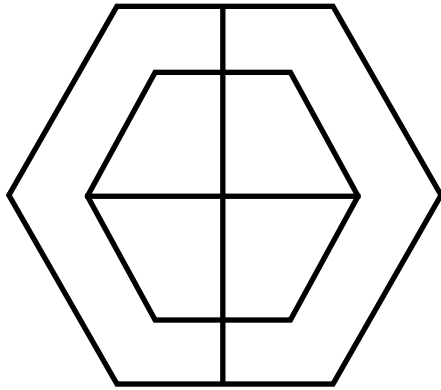
Group members are asked to get into pairs and are each given a handout containing a set of line drawings of simple and more complex shapes (see examples 1 and 2), and

some blank paper and pens. It should be ensured that each member has a different handout from their partner.

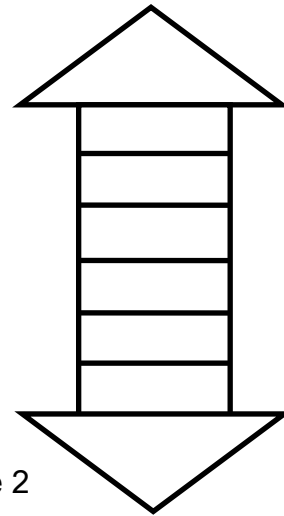
They are then instructed to take it in turns to choose a figure from their handout, without showing it to their partner, and describe it to them so they can draw it. A facilitator should pair up with a patient if there are odd numbers.

This task should take about 10 minutes or long enough so that each member of a pair has described and drawn at least one of the shapes.

Example figures for drawing Task:



Example 1.



Example 2

Reflections:

The facilitators can then ask the group for observations and reflections on the task to elicit discussion on detail focused vs. bigger picture thinking and the pros and cons of these, *for example:*

How did people find it?

Was it easy or difficult? Was it easier to draw or describe?

What strategies seemed to help?

How might you have done it differently?

What thinking styles were you using during this task?

What alternative ways could you approach this task?

What are the advantages/disadvantages of these approaches?

When do we need to use these thinking styles in everyday life?

Can these thinking styles cause problems ever?

Planning Homework

The session ends with some optional homework challenges. This should be introduced a few minutes before the end where a handout with suggested ideas can be provided (for a copy of the Homework Challenges see below). Patients are encouraged to try a small challenge for homework which should be treated as a personal experiment. The aim is not for patients to confront major difficulties associated with their eating disorder, but merely to practice simple tasks with the view of raising their awareness of their thinking styles and increasing their confidence in their own ability to change.

Flexibility Group – Homework Challenges

Before next week's group, see if you can try one or two of these challenges.

Try and chose one that may be something you would not normally do, or that is different to how you would normally do it.....

These challenges may help break a rigid routine you have (e.g. tidying room), or may help break a rigid thinking pattern (e.g. worrying about dining room).

- ❖ **Get up or go to bed at a different time** – maybe try not to set your alarm if there isn't something you need to get up for
- ❖ **Read a magazine, or a different magazine**
- ❖ **Watch a film or an episode of a TV show you haven't seen before** – maybe organise a film evening with others
- ❖ **Try and change your shower routine** – maybe use a different shampoo or shower gel
- ❖ **Style your hair in a different way**
- ❖ **Listen to a different radio station**
- ❖ **Try not to make your bed first thing in the morning** – maybe try and leave it until later in the day or before you go to bed
- ❖ **Change where you sit in the lounge**
- ❖ **Borrow a CD from someone else**
- ❖ **Take a different route on a journey you are used to taking**
- ❖ **Try a different colour eye shadow or lip gloss**
- ❖ **Play a game of cards/board game**
- ❖ **Change the time on your phone to 24hr or 12hr**
- ❖ **Read a chapter in a book**
- ❖ **Leave the house/room untidy when you go out and tidy up later**
- ❖ **Choose a new ring tone on your phone**

Or choose your own *little* challenge that means something to you.

Let us know how it went

Session 2 – Switching

Summary of previous session and reflection on homework

Group members are asked if they can provide a summary of the previous session and asked what they learnt. Group members who have attempted a homework challenge are encouraged to share their experiences.

Illusions Task

Visual illusions can be blown up and displayed on a flip chart, or they can be given as handouts if this is not possible. Around 4 or 5 illusions can be used in one session. The facilitators encourage a discussion on each illusion, asking group members what they can see – this task is a good way to promote interaction with different group members coming to the board to point out different parts of the picture.

Following this, the group are then asked to reflect on what the task tells us about our ways of thinking, for example:

What did people notice first? The bigger parts or the smaller parts?

Could group members see the different perspectives?

When do we need to be able to switch in everyday life?

Is it hard sometimes to see things from another point of view?

Do people find it hard to switch from their normal routines and habits? Any examples?

Planning homework

Again the session ends with the planning of optional homework. The list of homework challenges may be used again for those who have not tried one but for others it may be appropriate to plan within the session a more personal challenge. Again, the facilitators should try to discourage unrealistic goals so as to avoid the possibility of feelings of failure.

Session 3 – Multitasking

Summary of previous session and reflection on homework

As with the previous session, session 3 should begin with a reminder of the topics from the previous sessions and feedback from patients who attempted homework challenges.

Rub Tummy/Pat Head

Ask group members to rub their tummy and pat their head at the same time (facilitators can also join in). Then ask them to switch to rubbing their head and patting their tummy. Ask the group how easy or difficult they found the task.

Facilitators then explain that this is a short, easy task to demonstrate how our brains find it difficult to manage two things at once, especially when they are done in a way we are not used to.

Card Game Task

The aim of this task is to practice multitasking further. Group members are asked to get into pairs; facilitators may pair up with patients. Each pair is given a pack of playing cards and asked to play snap with each other and await further instructions. After group members have been playing for a few minutes, facilitators then ask them to carry on playing snap but at the same time to take it in turns to describe their favourite film to each other. Allow group members to continue with this for a few minutes before commencing discussion on the task.

Reflections should elicit discussion on why the task was difficult, and how patients manage multitasking in everyday life, for example:

How did everyone find the task?

When did it become harder?

What skill do we need to be able to do both the card game and the discussion?

When do we need to do this in everyday life? When is it difficult?

Planning homework

More personal challenges can be encouraged, this time they may focus on practicing multi-tasking if this has been identified as a particular problem, otherwise the focus can remain on practicing flexibility in everyday activities and routines.

Session 4 – Summary and Reflections

Summary of previous session and reflection on homework

As before, the group begins with a summary of what was covered in the previous session and a discussion on homework.

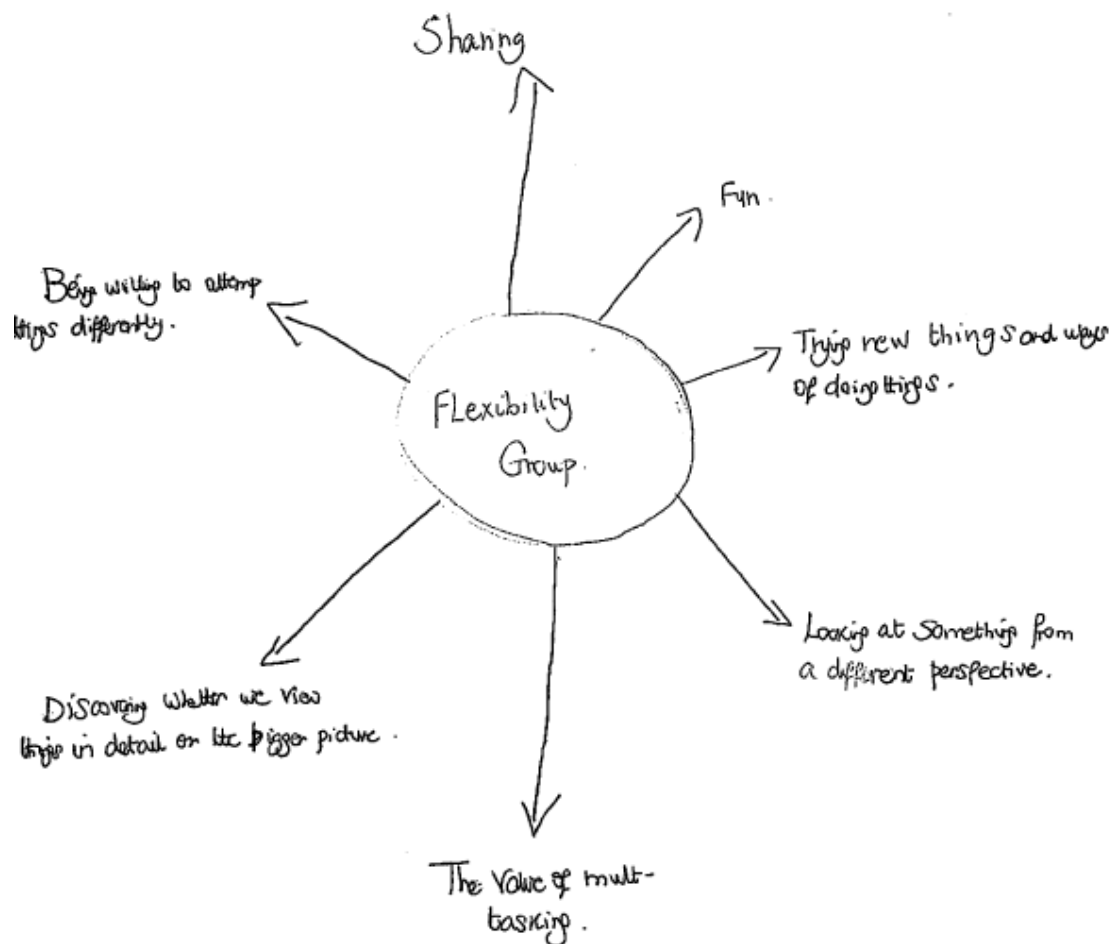
Mind Maps

The aim of the final session is to summarise and consolidate what has been covered in the previous sessions and to think about how group members can take what they have learned forward. Mind maps or spider diagrams are a good way to help group members

with this. Group members are given blank paper and a pen and are asked to write 'Flexibility Group' in the centre of the page. Group members are then encouraged to write around this central phrase other words or phrases that they can relate to the flexibility group. Facilitator encourages them to think how flexibility group work is related to general plan for recovery, how it helps to take next steps in treatment and to the future in general.

Group members can then share with each other what they have taken from the group. Facilitators can write these reflections on a flipchart if necessary. Below is an example of one group member's mind map, reproduced with her permission:

Example of group members 'mind map':



The aim is to help members to remember the four different thinking styles that have been covered in the sessions: 'detail focused thinking', 'bigger picture thinking', 'switching' and 'multi-tasking'.

The following task allows group members to reflect further on those different strategies.

Occupations Task

This task allows group members to explore the four different thinking styles and when they would be useful in everyday life. The overall aim is for patients to conclude that no particular thinking style is best, they all have their uses for different people, but that it helps if we can have skills in all four thinking styles as they are all needed at some points in life.

Different occupations are written on postcards or post-it notes in preparation for the session, for example: brain surgeon; teacher; dinner lady; architect; student, editor, builder, chef.

At the beginning of the task the facilitator should write the four thinking styles in the four corners of a flipchart sheet. The group are then instructed to place the different occupations on the flip chart under the skill they would most use. Discussion over the occupational skills used by each one should be encouraged and then agreed as a group where each one should be placed. For example, an architect might need to have a bigger picture approach to look at the building he is planning as a whole and where it will fit in its environment, but he also needs to have a detailed approach as he will need to draw very minute and detailed drawings of the plans. In this example, the architect may then be placed somewhere between the bigger picture and detail focus on the flip chart.

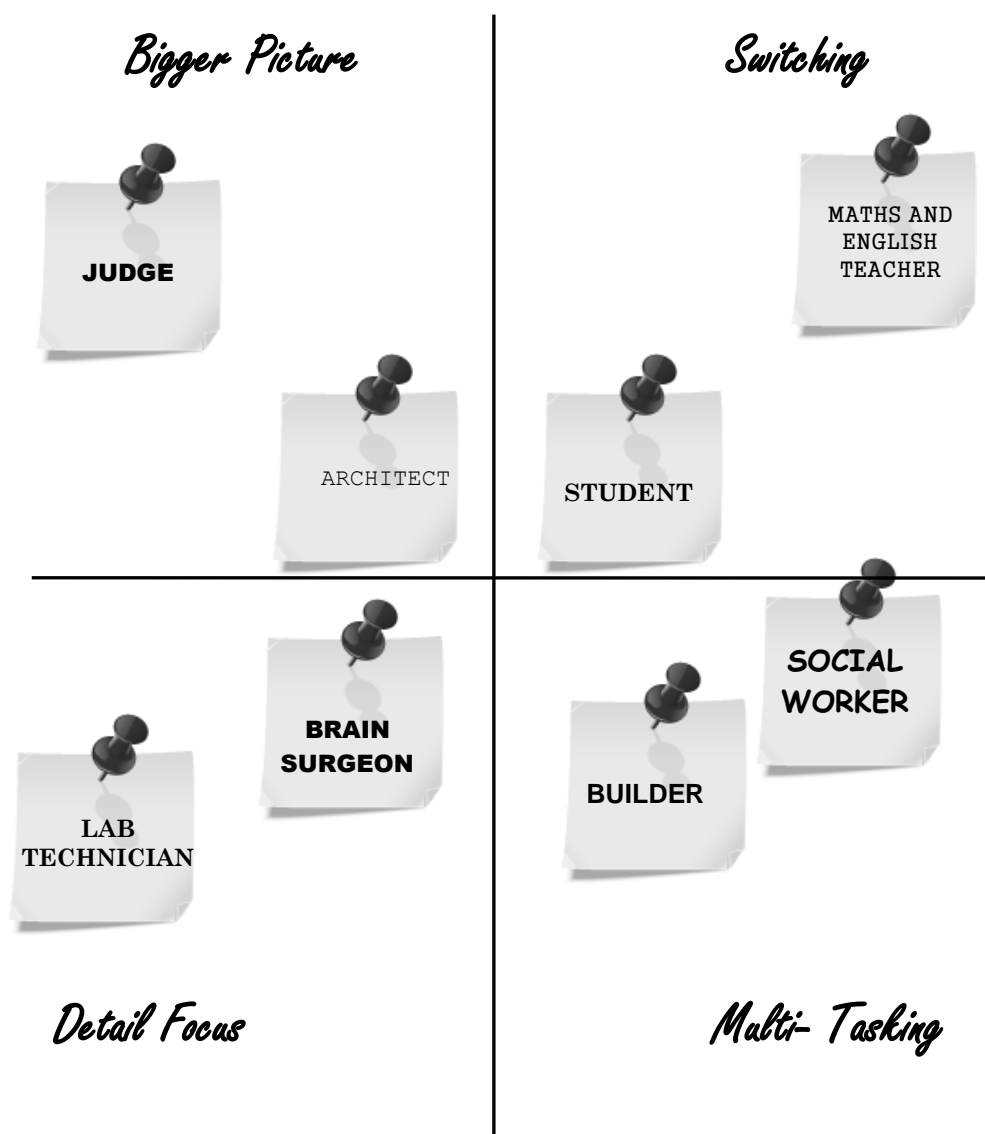
Discussions often conclude that several of the occupations use a variety of skills and can be placed in the middle of the flip chart or in between two of the skills. After all occupations are sorted on the flip chart the facilitators generate a discussion on what the group can conclude from this task about the thinking skills covered in these sessions. As mentioned this allows members to come to some useful conclusions about thinking skills, for example:

- everyone needs a combination of all the thinking skills

- some people have strengths in some of the skills more than others

- if we can practice having all of the skills in our thinking 'repertoire' then we are more likely to be able to handle different situations in life

Occupations Task – An example:



Proverbs and Sayings

The aim of the final task is to provide some motivational messages for the group to discuss in session and to take away as a handout. Proverbs and sayings that captured the aims and themes of the group sessions are presented to the group and provided in a handout (an example of the Proverbs and Sayings Handout is provided below). Facilitators should generate discussion on these sayings and how group members feel about the end of the group, *for example*:

Do any of these sayings particularly stand out to anyone?

Does anyone have a favourite?

Does anyone have any other examples that are not on the list?

Do any of them really summarise what this group has meant?

Can everyone share the main message they will take from this group and how they will take it forward.

Proverbs and Sayings – Some examples:

**Variety is the
spice of life**

**"Rules are made
to be broken."**

**'Nothing ventured,
nothing gained'**

Be not afraid of growing
slowly, be afraid only of
standing still.
(Chinese proverb)

Attitude might not help you
catch a fish....but it helps
when you don't.

**Better to bend than to
break.
(Indian proverb)**

Chains of habit are too
light to be felt until they
are too heavy to be broken.

Outcome Measures in group format cognitive remediation therapy

If the group is being evaluated, outcome measures can be given before the first, and after the last session. The measures for the final session can include a feedback questionnaire. Verbal feedback can also be sought at the end of the groups.

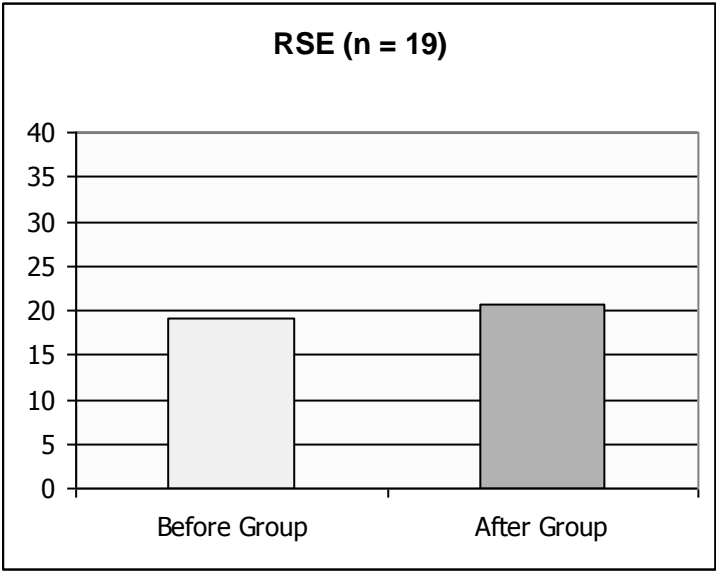
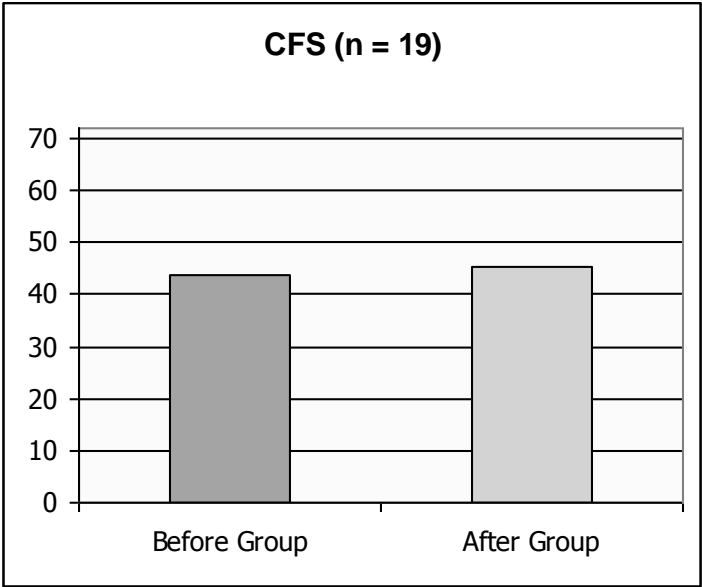
When deciding on appropriate outcome measures for evaluating this pilot the team were mindful of choosing measures which would reflect the areas on which the group focused whilst remaining practical to administer in session. Neuropsychological assessment was not possible mainly due to the lack of resources but it would also not be practical with up to 9 group attendees.

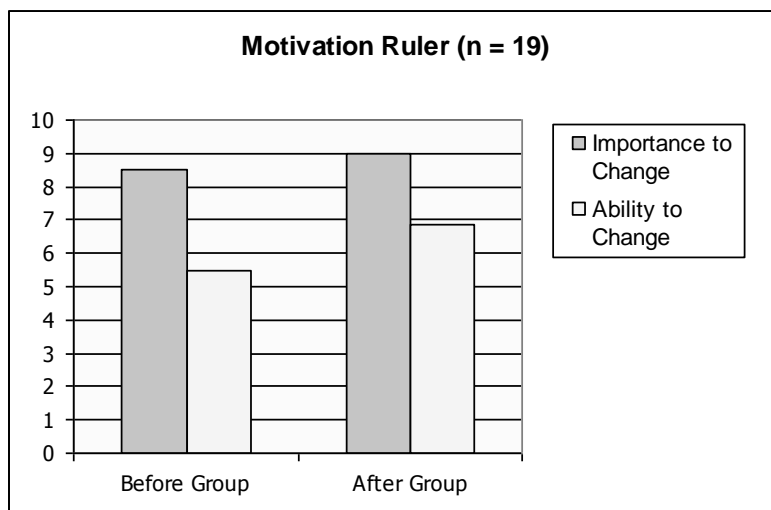
To measure the development of cognitive skills the Cognitive Flexibility Scale (CFS; Martin and Rubin, 1995) was administered. The CFS assesses participants' perceptions of the options and alternatives available to them in everyday situations. Higher scores represent greater cognitive flexibility. The authors found a mean score of 54.1 in a healthy population (Martin and Rubin, 1995).

The Rosenberg Self Esteem Scale (RSE; Rosenberg, 1965) was used to assess global self esteem. Here, higher scores represent greater self esteem. Participants were also given a Motivational Ruler which asked them to rate on a scale of 0 -10 how important it is to change and how confident they are in their ability to change.

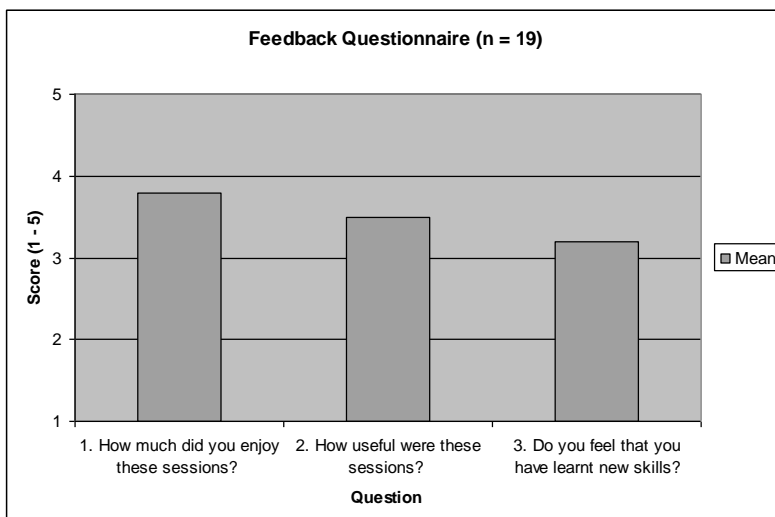
In addition we gave participants a self designed feedback form on the last session. This feedback form firstly asked patients to rate on a Likert scale of 1 to 5 how much they enjoyed the sessions; how useful the sessions were and whether they felt they had learnt any new skills. There was also 2 open ended questions that asked patients what they liked most about the sessions and what could be improved.

Outcome data from the ‘Flexibility Group’ pilot:





Group Members Feedback



When asked what participants liked most about the sessions 11 patients (65%) mentioned being able to talk and share experiences as helpful. Patients also mentioned liking the approach of using practical tasks to demonstrate thinking and behavioural styles. The educational aspects to the sessions i.e. learning about thinking styles and the brain were also mentioned as being useful. Four patients also mentioned finding the homework in between sessions as helpful for practicing new ways of approaching everyday activities.

Only 12 of the participants suggested something that could be improved and half of these patients said they would like more sessions and further practice at the skills covered in the sessions. Two patients mentioned the benefits of having individual cognitive remediation therapy sessions in addition to the groups, and the remaining patients said that nothing could be improved.

Quotes from patients' feedback forms

"The tasks set and discussed were quite gentle but allowed for deeper reflection. I felt it wasn't too pressurised or formal but it was motivating."

".....helping to understand thinking styles and strategies, and how to adopt new coping mechanisms."

"Something different to groups I have attended before....Alternative ways of looking at things"

"I think it would be useful for everyone to attend."

CHAPTER

6

What we have learned from patients about cognitive remediation therapy

Qualitative feedback

To date, we have analysed over 23 patients' ending letters. This data is published in the International Journal of Eating Disorders, Whitney, J., Easter, A. & Tchanturia, K (2008). Service users' feedback on cognitive training in the treatment of anorexia nervosa: a qualitative study. *Int. J. Eat. Disorders*, 41 (6), 542–550). These have provided a valuable tool for understanding how useful patients have found cognitive remediation therapy. This means we have been able to incorporate and improve the sessions based on patients' input.

From the letters, we have learned that patients found the therapy:

Generally positive

Refreshing and they liked that it did not focus on eating and food

Helpful in reducing perfectionist and rigid tendencies and in seeing things more holistically

Patients were able to translate skills learned to real life, aided by:

Their clinician's encouraging and warm stance

Discussion of the applicability of skills to real life settings

A couple of the patients suggested changes to the intervention, e.g. varying levels of difficulty and more guidance in implementing the behavioural changes

Self report questionnaires

In addition to the letters, after 10 sessions of cognitive remediation therapy we asked

patients to complete a short questionnaire in which they were asked to rate, on a scale of 1–10, how satisfied they have been with different aspects of their treatment. The questions that we asked included:

How positive do you feel about the treatment you have had? (0 = not at all positive, 10 = very positive)

How effective do you think your treatment has been? (0 = not at all effective, 10 = very effective)

To what extent did this treatment meet your expectations? (0 = not at all, 5 = expectations met, 10 = expectations exceeded)

Do you feel that the treatment provides transferable skills to your everyday activities? (0 = too little, 10 = too much)

How satisfied were you with:

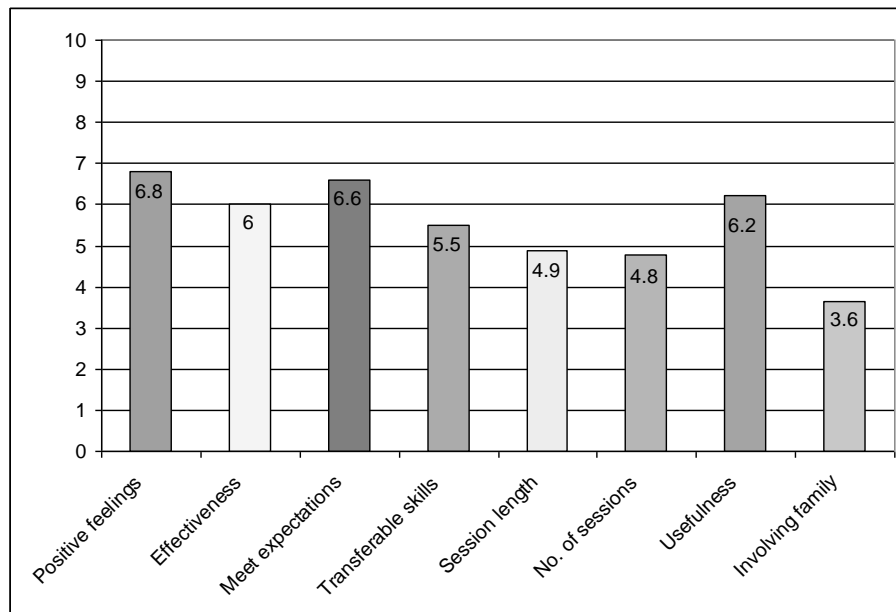
Length of the sessions (0 = too short, 5 = just right, 10 = too long)

Number of sessions (0 = too few, 5 = just right, 10 = too many)

How useful did you find the treatment? (0 = not at all useful, 10 = extremely useful)

As far as the effectiveness of your treatment is concerned, how important do you think it has been to involve a close other or family member?
(0 = not at all, 10 = very)

As the figure below illustrates, the mean satisfaction scores from our patients are encouraging.



How patients' letters can inform future therapies?

In the inpatient setting, cognitive remediation therapy can be a predecessor to further therapies, for example cognitive-behavioural therapy. The ending letters written by the patient and the therapist are useful tools to bridge what has been learnt in cognitive remediation therapy to what the patient will embark upon in future psychological treatments. Therapists who go on to see patients who have received cognitive remediation therapy may find the letters valuable in terms of their formulation.

CHAPTER

7

Delivering cognitive remediation therapy: From supervision to therapists' experiences

Who can deliver cognitive remediation therapy?

Cognitive remediation therapy can be delivered by members of the multidisciplinary clinical team therefore it is possible for nurses, occupational therapists, social workers and researchers to work with patients using this approach. In our settings cognitive remediation therapists have also included trainee clinical psychologists or PhD research trainees with adequate honorary contracts to work in the clinic. All cognitive remediation therapists are expected to have a general induction to the procedures of working with patients and minimal training to be allowed to work with a patient population.

It is important that cognitive remediation therapy training is undertaken (2 day introductory workshop with annual follow up training workshops) and regular supervision (individual or group format). Supervision is led by a trained and licensed clinician (i.e. Clinical Psychologist, Therapist or Psychiatrist). Although this Manual and ideas for cognitive exercises give structure for the sessions, it is important that any complications that arise during sessions can be discussed in supervision along with the work undertaken during cognitive remediation therapy which can contribute to the general formulation discussed on supervision session.

Supervision

It is advisable for therapists to have regular supervision (as it is important when working with any psychological intervention). For the pilot study discussed in this manual, therapists received weekly group supervision from a clinical psychologist. From these many supervision sessions, we can provide a comprehensive description of issues for supervisors to watch for.

Therapists need support and encouragement but also reminders of the purpose of cognitive remediation therapy and what it can and cannot do. For example, cognitive remediation therapy is given to very complex patients and so of course it will not be possible for the cognitive remediation therapist to resolve or address all of the patient's issues and psychological needs. The supervisor can spot where deviations from the protocol are occurring and help the therapist keep the purpose of cognitive remediation therapy 'online' in future sessions.

Less experienced therapists may raise concerns about how to contain emotions in the room and how to support the patient who is distressed (see FAQ for information about emotions in cognitive remediation therapy and answers to the most common questions arising when delivering cognitive remediation therapy).

It is a good idea to videotape or audiotape sessions for supervision (see overleaf for a rating form which can be helpful in evaluating therapist performance).

Assess the motivation of the therapist and motivational style of the delivery of the intervention (this can be achieved from recordings of sessions and using the rating scale included in the manual).

Cognitive remediation therapy compared with other interventions

From the pilot work, it has also been highlighted that people find it useful to understand the distinctions and similarities between Cognitive behavioural therapy (CBT) and cognitive remediation therapy (CRT). For supervisors it is especially important to have this information clear to relate to therapists.

Similarities between CRT and CBT

Like the Maudsley Model of CBT for anorexia nervosa, CRT is delivered in a motivational interviewing fashion (as developed by Miller and Rollnick). A key aspect of the motivation style is that the therapist aims for equality between her/himself and the patient. This is an easier achievement in CRT as both therapist and patient can take it in turns to direct the tasks. Furthermore, the therapists should allow the patient's own words to provide the starting point for therapeutic reflections such as how the skills they use in

the tasks might be transferred to their daily lives. The therapist should offer the patient frequent encouragement in a warm and positive way.

Reflecting on real-life scenarios in CRT can sometimes lead to a discussion regarding the patient's beliefs regarding a particular thinking style. A patient may endorse her detailed focussed approach and hold negative beliefs about changing it. A discussion may then follow regarding everyday scenarios when this way of thinking makes life difficult for the patient. When CRT involves this form of reflection it is targeting the content of thought and not just the processes underpinning it. This is of course what is classically targeted in CBT.

Although CRT is targeting basic cognitive processes these similarities highlight the fact that such processes interact with higher-level beliefs. It is inevitable that examples relating to such beliefs will arise in CRT but it is important to know why and that the focus is still on helping with processes of thinking.

Behavioural tasks in CRT may also reflect the principles of CBT. Behavioural tasks alleviate patient's anxieties and provide them with positive experiences concerning the consequences of change in a contained format. However, the behavioural tasks in CRT are not directly challenging to eating disordered behaviours.

Differences between CRT and CBT

CRT does not address core symptoms of the illness (eating, weight or shape concerns) and uses affectively neutral material

CRT is structured and provides a frequent and predictable sense of achievement for patients

CRT offers psychological input but not to the degree that CBT or other complex psychological interventions do; in other words, CRT for anorexia nervosa is not a standalone psychological intervention: we see it as a complimentary addition or pre-treatment to CBT

CBT requires taking differing perspectives as well as to take a more global view of problems in order to identify and challenge contributing factors for symptom maintenance. CRT is targeting these processes.

Cognitive remediation therapist rating scale

There are a number of ways to assess treatment fidelity in CRT. For example, sessions can be video recorded and the rating scale below can be used to rate the sessions and then used to rate fidelity between therapists.

Cognitive remediation therapist rating scale (answers are coded on a 1-7 Likert scale)

1. Structure of session (Did the therapist guide and structure the session appropriately?)
2. Pacing of session
3. Therapist's style – Collaboration (Did the therapist form a collaborative relationship with the client? How interesting is the therapist's style of communication? (Consider (1) the vividness of her/his language; (2) the originality of her/his ideas; (3) the liveliness of her/his manner of speaking).
4. Appropriate techniques (Did the therapist suggest appropriate CRT techniques to deal with the patient's thinking style?)
5. Skilful execution of techniques

Did the therapist appear to be competent at delivering the CRT?
6. Helpfulness of session (Did the client appear to find the content of the session helpful?)
7. Therapeutic connection (Does the therapist use CRT to build a therapeutic connection with the patient?)
8. Client / problem difficulty

Given the problems of this particular client, was the therapist effective?
9. Linking Sessions

Did the therapist make reference to the content of other sessions and real life examples?
10. Using the manual (Did the therapist make appropriate reference to the manual?)
11. Homework assignments (Did the therapist suggest appropriate homework? Did the therapist enquire about the outcome of previously set homework?)
12. To what extent do you think this is cognitive remediation therapy as you understand it?

The therapists experience of working with cognitive remediation therapy

Writing and exchanging letters with patients is one of the core elements in the Maudsley treatment package used in outpatient and inpatient services (Schmidt and Treasure 2006). In this section we will overview what we have learned from the analysis of therapists letters written to patients following cognitive remediation therapy which were taken from the pilot study described in this manual (Tchanturia et al, 2008). In general summarising cognitive remediation therapy work in ending letters serves several goals:

For the patient it is a very good way to have a summary and 'gist' of the 10 sessions;

For the therapist it is a good way to think about the formulation and prepare for further work with the patient;

It is a useful summary of the work which can be shared with the multidisciplinary team to help maintain the skills and strategies the patient was able to learn in the cognitive remediation therapy sessions.

Twenty-three letters from 12 therapists to patients were analysed with the aim of exploring in-depth the main themes arising from the letters which were; content of cognitive remediation therapy from the therapists point of view; benefits which therapists thought cognitive remediation therapy had for the patients and process of the therapy. Qualitative analysis was conducted by two researchers using the Grounded Theory approach (Easter and Tchanturia, in press).

Below are the most common themes arising from the letters are described with quotes taken from the letters to provide practical examples.

Reflecting and Challenging Cognitive Styles and Strategies

All letters discussed the patients' ability to identify and reflect on cognitive strategies that were utilised to complete the tasks as an important first step of this intervention.

"Throughout cognitive remediation therapy you had really good insight into how you approached the tasks and described your thinking and strategies extremely clearly. This allowed us to reflect together on good and possibly less helpful aspects of certain strategies, especially when applied to real life situations and to consider some alternatives."

Descriptions of patients' reflections were frequently linked to their attempts to challenge these thought processes. This was often described as a process of looking at the relative effectiveness of the cognitive styles identified, generating alternatives and experimenting by trying out different strategies. Cognitive styles that were discussed in the letters included perfectionism, attention to detail, dichotomous thinking, and cognitive flexibility.

Cognitive Flexibility "We talked about how this relates to seeing things as either good/bad, right/wrong and how realistic a way of thinking this actually is. We therefore talked about giving more substance to the areas in the middle and you came up with

wonderful idea of having a spectrum whereby red is at one end and white at the other with the aim being to think about scenarios and outcomes as being towards the middle of the spectrum i.e. Think Pink!”

The process of reflecting on and challenging cognitive styles was one that went on throughout the duration of the intervention and one which therapists encouraged their patients to continue in the future.

Linking Tasks with Everyday Life and Real Life Examples

A subsequent phase of the intervention mentioned in all letters was one where patients’ related these thinking styles to situations in their everyday lives. Many of the examples given by therapists concerned situations where patients’ difficulties in holistic processing and cognitive flexibility hindered their daily functioning.

Flexibility: Therapists gave a variety of examples of how patients linked ‘cognitive flexibility tasks’ to daily life, which occurred in a variety of life domains. Most frequent examples included strict routines such as washing and cleaning, morning and evening routines, travelling by the same route every day, difficulty switching their focus of attention and wearing the same clothes, make-up, and hair style. Below is an example of how one patient links the cognitive flexibility tasks to a specific example in her life where she had difficulty switching her attention backwards and forwards.

“You came up with a great example of having to switch your attention between several different boxes open in MSN messenger on the internet. You told me that you used to be able to do this easily, but since you have been unwell you’ve found it really difficult to do this.”

In the quote described below, it describes how the patient went from experiencing fear from change through to seeing the positive benefits it could bring to her daily life.

“. In some of the early sessions, you could relate the rule switches to your use of rules or mental checklist in everyday life; you described how you are usually able to make changes to your routines or plans if necessary (e.g. if there is an alarm on the ward, if you receive an unexpected bill) but that this causes a lot of anxiety. On the other hand, you described how sometimes after making changes, you actually experience a big relief (e.g. when you overslept and could not arrive in the dining room early). After a few sessions, you became confident to set tasks for yourself which involved actively changing your schedule. You successfully incorporated new activities, such as the art work and computer games. Another big step was going for your first session to learn about internet use – when the idea came up, you challenged yourself to go ahead the same day without planning and you were able to enjoy a great sense of achievement afterwards! Importantly, you also noticed how a changed routine can sometimes replace an old routine (e.g. being active after 7pm) but showed great insight and initiative and found a way to deal with this (having a relaxing bath occasionally)”.

Holistic Processing: Therapists’ examples of how patients had linked the ‘holistic processing tasks’ to their daily lives reflected situations where patients felt they could become lost in the detail of an activity, for example; in conversations with others and when relaying information to someone succinctly, household work (cleaning/DIY), writing letters,

cards and essays, and perfectionist behaviours.

"We discussed the example of assembling IKEA furniture which you said you dreaded; in a way, this task requires attention to detail and working step by step but at the same time having to have an overall idea of the final result or goal you're working towards."

The quotes below provide examples of how 'bigger picture' tasks such as the 'Main Idea' helped patients to identify detailed/holistic thinking styles and also how a strategy learned from the task could be applied to daily life.

"On the Main Idea task (letters), you were able to demonstrate some very important strengths; you could summarize the main message succinctly, which you said is often important in relaying information efficiently to others in everyday life. You described how getting caught up in the details of a situation (e.g. your relationship with your dad; calorie contents of meals) can get in the way of seeing the overall picture and therefore of moving things on in a more productive way. It was good to hear that you could spot changes in your approach to some things already, where you now maybe keep the main picture in mind more often".

"....In this connection, you mentioned people sometimes comment that you give too much information, or repeat information when you are telling them something. We discussed how you might remind yourself to summarise on these occasions, and you made the excellent suggestion of saying 'The main point is...' or 'To cut a long story short...'. "

Applications of cognitive remediation therapy and behavioural homework tasks

Following on from therapists descriptions of how patients could link cognitive remediation therapy with their everyday life, 19 (83%) of the therapists' letters outlined situations where the patients' had applied the skills, reflections and discussions from cognitive remediation therapy outside of the therapeutic sessions. These examples included both applications as part of homework exercises set by therapists as well as more spontaneous applications of cognitive remediation therapy to real life settings. Therapists encouraged patients to try out new ways of doing things and to consider the bigger picture in their day to day activities.

"...you practiced being more flexible in your thinking outside of our sessions. You attempted everyday tasks that were different from your usual routine. For example, you successfully tried wearing new makeup and were even willing to sacrifice (the T.V. programme) X Factor to watch Strictly Come Dancing!"

"In another insightful connection between the tasks and your life, you talked about balancing cleaning and your social life: how you left the floor unwashed in order to be in good time for a friend. This decision reflected your ability to put cleaning in the context of your life as a whole and to rank it in relation to your social life. This also showed your capacity to be flexible, which is a skill which we explored in the other tasks during cognitive remediation therapy"...

"As a way of practicing looking at the bigger picture, I asked you to try and think more about your bigger picture for homework by doing a collage or flash card with images that remind you of this. You made a beautiful placemat with your Mum and Dad which contained lovely images that reminded you of your animals, your family and the things you

enjoy. The methods you used on these tasks and your approach to your artwork suggests you have both sets of skills (detail focus and bigger picture) which hopefully will be useful in thinking about a bigger future for yourself and moving towards recovery”.

The extent to which behavioural homework tasks were described and the success that patients had in completing them varied across letters. In the four letters that did not refer to any concrete applications of cognitive remediation therapy to everyday life, therapists strongly suggested that the application would be the next step for patients to focus on in the future.

Suggestions and the Future

The letters emphasised key aspects of the intervention for patients to remember and made suggestions for how each patient could implement cognitive remediation therapy in the future:

“You became better at conveying the gist in bullet points and we thought it would be a good idea to practice on your own summarising book excerpts, magazine/paper articles etc, as well as trying to work on using abbreviated words.”

The majority (N=17; 74%) of letters commented that it would be beneficial to their patient to continue to reflect on their thinking styles and behaviours in the future, and to continue practicing the skills learnt and discussed in cognitive remediation therapy.

“It is important that you keep trying to practice all the strategies used in the sessions in your real life. Especially you can keep working in trying to see different perspectives and adding little changes in your daily routines. You might be able to share your new “experiments” with someone close to you to improve your abilities”

“.....If I understood you right, underlying all this is really a shift you want to make in your focus, from focusing everything in your life around food to focusing on living your life. You described how living with an eating disorder is what you have known for the most your life and that the uncertainty of what life without it might be like is something that causes you a lot of anxiety. By exploring some new activities, we have tried to look at ways of how you can start to focus on alternatives in small steps. However, I think it may be important to continue to discuss your thoughts around this with other staff on the ward, to continue to explore these thoughts and anxieties”.

Recognition of Patients Progress

All letters outlined patients’ strengths, achievements and progress in the therapy. Many letters (N=14; 61%) commented that patients had little or no difficulty carrying out the tasks and that they did not pose much of a challenge intellectually.

“You have found many of the tasks easy to execute and in particular you found the visual illusions, maps, embedded words..... tasks effortless.”

Letters praised patients for facing challenges and pushing themselves to apply the skills in their real lives, for generating behavioural examples and coping strategies, and for the progress made in their cognitive flexibility and holistic processing abilities:

“Although you had trouble doing the homework tasks in between the sessions as we

discussed, I think if you continue to challenge yourself in the way that I have seen you do over the past few weeks, and then you will be able to see positive changes in the future.”

“In the last couple of sessions, it was very positive to hear that you could recognize and be happy about your own progress and really feel proud of your work. I am confident that your motivation and strength to face up to some very difficult challenges which you have demonstrated over the last weeks will be a great basis for continuing the process of your recovery”.

Difficulties Experienced by the Patients

19 (83%) of letters outlined some of the difficulties that patients experienced in the cognitive remediation therapy sessions and how these were addressed. While many letters commented that patients tended to complete the cognitive remediation therapy tasks with ease, others reflected upon the difficulties that their patients experienced with the tasks as a result of their information processing styles.

“Some tasks I think posed a bit of a challenge at first, particularly estimation. I remember initially you were very focused on your performance, i.e. how accurately or neatly they were done.”

In addition to the problems arising from information processing styles, letters commented on patients’ ability to reflect on and challenge their thinking styles, to generate everyday life examples, to apply cognitive remediation therapy to everyday life situations, and to carry out behavioural homework assignments.

“.....you did talk about how recently being able to look at the bigger picture has become very difficult. You felt that your life had become very narrow as it no longer contains things that were important to you such as a job or social life. You often also talked of how difficult things were on the ward and that to get through it you focused on one hour at a time. This did mean that you sometimes found it hard to reflect on how your whole week had been.....”

“you feel, in particular over the last year, that you have not been using your brain enough and feel that it has “turned to jelly”. You stated that you would like to get your “where-with-all” back and broaden your life. We discussed how if you don’t use certain skills for a while it becomes harder when we need to use them. However the tasks showed that with a little practice we can get those skills back again.”

Emotions

Since cognitive remediation therapy addresses the basic processes of patients’ thoughts rather than the content, the intervention is designed to be affectively neutral in content, as such reference to patients’ emotions and feelings were brief. However, since patients naturally experience emotions during the course of treatment, therapists often acknowledged both positive and negative emotions that were experienced or expressed by patients within the sessions.

The positive emotions most frequently commented on were enjoyment, fun and humour, mentioned in 14 (61%) of letters. Therapists discussed how patients enjoyed various

aspects of the cognitive remediation therapy, in particular the tasks, and also commented on the enjoyment that they had experienced in working with their patients.

“...we had fun with the illusion tasks, and again you were always able to see both pictures, even if it may take you a few moments to pick up the second [illusion] and to switch between the two.”

“Most noticeably I have seen your confidence or self esteem grow throughout the sessions. This has been reflected in the way that you have approached the tasks. As you said, you feel you have already been able to take some of this increased confidence and use it in other situations, such as your OT [occupational therapy] sessions.”

Anxiety was the most frequently mentioned negative emotion experienced during the intervention, which was commented on in eight letters (35%). Therapists described how their patients felt anxious around completing the tasks perfectly or where they were required to be more flexible in their thought or behaviours.

“When we first commenced the sessions you seemed anxious to get all the tasks correct. Do you remember describing the Complex pictures so that I could draw them? You blamed yourself for me getting the shapes wrong and found it hard to believe that I am not very good with drawing diagrams.”

Food, Weight and Body Image

Seven (30%) of the letters made reference to core features of AN such as food, weight and body image, although references were frequently brief and not the main focus of the letters. References to this topic were a way of putting the cognitive remediation therapy sessions into the wider context of their patients' illnesses, and reflecting back on discussions during the intervention regarding these topics.

“You then commented that this is a bit like your eating disorder – you said that you can be so fixated on lots of things but if you “step back” you can see that those things are not as important.”

“If I understood you right, underlying all this is really a shift you want to make in your focus, from focusing everything in your life around food to focusing on living your life.”

Effectiveness

There were a number of characteristics that therapists reflected on as contributing to the effectiveness and successful outcomes of the intervention. Most frequently therapists commented on the hard work and commitment that patients put into the therapy, mentioned in 16 letters (70%).

“Your motivation and commitment to psychological work, including our cognitive remediation therapy sessions, provides you with important tools with which to tackle the challenges that overcoming your anorexia nervosa, obsessions and compulsions bring.”

As discussed earlier the patients' ability to reflect on and challenge their thinking styles and strategies was a further feature that was identified in some letters as having an impact on the outcomes of the intervention.

In Summary

In sum, many similar themes emerged across the 23 therapists' letters and all letters outlined patients' achievements and progress through the intervention. This took the form of three distinct stages: 1. reflecting on and challenging cognitive styles, 2. linking cognitive remediation therapy tasks with everyday life situations and generating real life examples, and 3. carrying out behavioural homework tasks and applying cognitive remediation therapy to everyday life. The majority of letters summarised aspects of the intervention that patients found difficult and suggested areas to work on in the future. Less dominant themes were emotions experienced during the intervention and core features of AN. Letters also acknowledged personal attributes in their patients that they recognised as important to their patients' progress.

One of the key features of cognitive remediation therapy is that it is affectively neutral in content and does not focus on food, weight and body image, which patients have found a refreshing aspect of their treatment (Whitney, Easter & Tchanturia, 2007). However, the therapists' letters have identified the types of emotions and feelings that patients can experience during cognitive remediation therapy and how sometimes it may be helpful to refer to core features of the illness to make sense of more helpful thinking styles.

Themes arising from the therapists' letters reflect both the themes arising from a report of patients' end of treatment letters (Whitney, Easter & Tchanturia, 2007) and theoretical underpinnings of cognitive remediation therapy (Baldock & Tchanturia, 2007, Tchanturia, Davies, & Campbell, 2007, Tchanturia et al 2008, Tchanturia and Hambrook 2009). Many of the principles of motivational interviewing and stages of change are also applicable to cognitive remediation therapy and can be seen in the key concepts of therapists' letters. The varying focus of therapists' letters on different stages of the intervention implies that therapists tailored the intervention to their individual patients' readiness and ability to change.

CHAPTER

8

Long term benefits of cognitive remediation therapy

We have seen there is evidence that the neuropsychological profile of patients with AN can change following cognitive remediation therapy (Tchanturia et al, 2008). However it is important to explore whether cognitive remediation therapy also had an impact on patients' own attributions of their thinking styles and other clinical outcomes.

It is well established that patients with eating disorders have low self-esteem (e.g. Geller et al, 1998). Studies using cognitive remediation therapy for psychosis report improved self-esteem while patients are engaged in treatment (Wykes and Reeder, 2005). Depression and anxiety are also key clinical aspects in the presentation of AN. It has also been found that increased levels of depression and anxiety persist even after recovery from eating disorder symptoms (Pollice et al, 1997). Body Mass Index is routinely measured as part of treatment for eating disorders and is a widely used clinical marker for outcomes in eating disorder research. Self esteem, depression and anxiety and weight gain are not targeted by the cognitive remediation therapy intervention. However, given the significance of these clinical outcomes in AN, we wished to monitor changes before and after cognitive remediation therapy.

Measuring longitudinal flexibility and clinical outcomes

Patients were routinely asked to complete self report outcome measures before and after cognitive remediation therapy and at 6 months post treatment. Self report measures were as follows:

Cognitive Flexibility Scale (CFS) (Martin and Rubin, 1995)
 Thinking Skills Questionnaire (TSQ) (Powell and Malia, 2003)
 Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965)
 Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983)
 Patients' BMI was also recorded at several time points throughout treatment and follow up:
 At admission to the inpatient unit
 1 and 2 weeks prior to the intervention
 At each of the ten sessions
 At 1 and 2 weeks post-intervention
 At 6-month follow-up

Results of longitudinal data

Table 1. Mean and standard deviations for BMI collected before treatment, post treatment and 6 month follow up

Baseline (n = 23)	Post Treatment (n = 23)	6 Month Follow Up (n = 12)
Mean (SD)	Mean (SD)	Mean (SD)
14.8 (1.4)	16.2 (1.3)	16.7 (1.6)

Fig 1. Mean Cognitive Flexibility Scale (CFS) scores

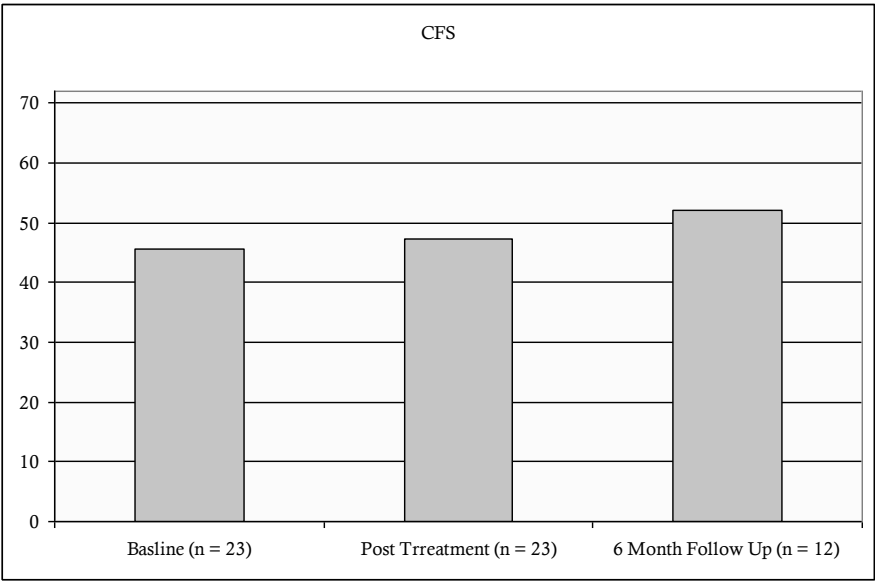


Fig 2. Mean Thinking Skills Questionnaire (TSQ) scores

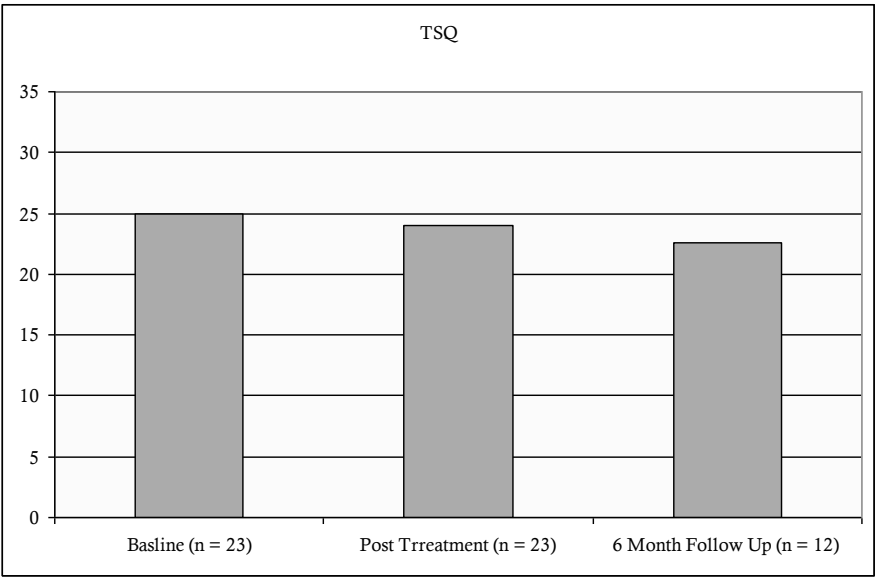


Fig 3. Mean Rosenberg Self Esteem (RSE) scores

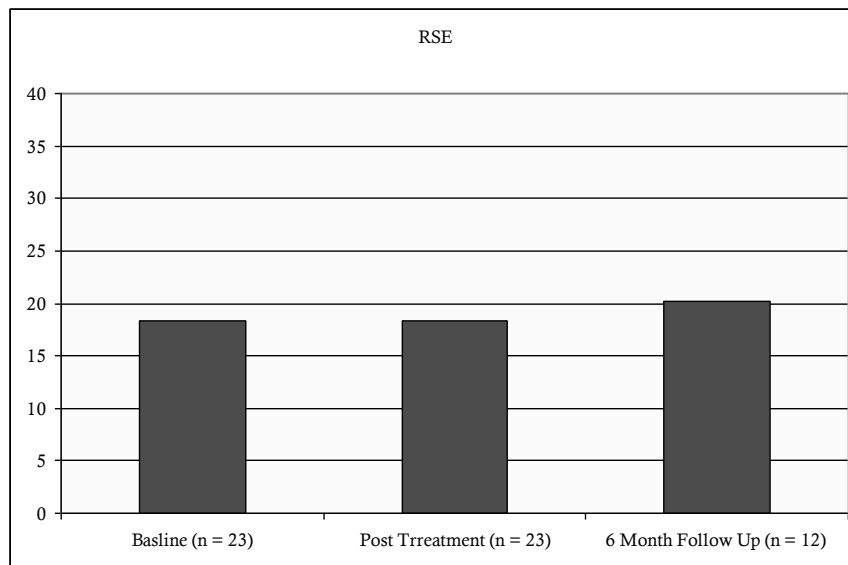
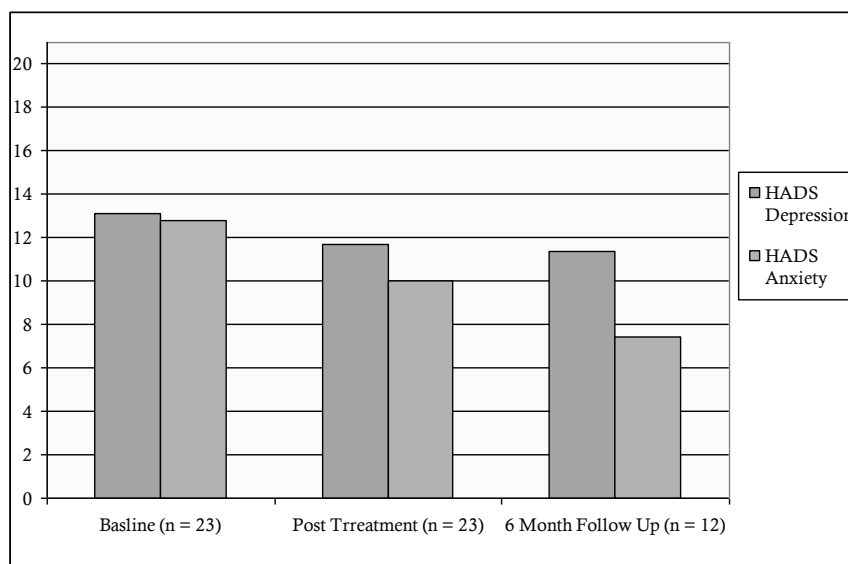


Fig. 4 Mean Hospital Anxiety and Depression (HADS) scores



The change in the scores on all five measures showed improvement. With regard to thinking styles, significant linear increases were observed on the CFS, representing a longer-term improvement in flexible thinking. Changes in the other clinical areas of self-esteem, depression and anxiety also revealed an improvement in scores however, only improvements in depression levels reached statistical significance. The significant changes in BMI are also encouraging, with improvements in weight status continuing at 6-month follow-up. However, it should be noted that the participants in this study were drawn from a specialist eating disorders inpatient unit, therefore increases in the nutritional health cannot be solely attributed to the cognitive remediation therapy intervention.

CHAPTER

9

Frequently asked questions

How many exercises are expected to be done in each session?

Ten exercises are the maximum per session, however be flexible, because patients have a different pace at the beginning of therapy. The evaluation forms in the manual provide only suggestions for what to do. We learned that 'less is more' and it is important to leave time for reflection rather than do 'tasks for tasks sake'.

What can I do if my patient does not show difficulties in any of the tasks we are implementing in the session?

Encourage them, acknowledge their cognitive strengths and explore if they have difficulties in their strategies in everyday tasks. If problems are identified, work with patients to explore possible solutions and how cognitive strengths could be applied to real life.

How can I encourage my patient if she/he does not come up with real life examples?

We have included other patient's examples in the manual. These can provide a springboard from which your patient can think about their own real life examples. Encourage them to think again.

What can I do if my patient wants to talk about emotional issues or examples related to food/emotions?

Stay with it, however if you are unable to handle the problem they are bringing in the session go back to the aims of the task and where you started. Stick with the cognitive component of the problem rather than being drawn into the emotional element.

What can I do if my patient says that:

She/he is bored with (some of) the exercises?

Explore why this is before you exclude the exercise. It may be because the exercise is too easy or difficult, in which case you can change the pace at which you do them. You can introduce new exercises to try out; you can discuss how these exercises are used in various settings. If the patient feels that it is not useful and wants to leave, respect this choice. Mention that for some people it might be irrelevant and it won't affect their future treatment plans and care management.

She /he finds some exercises too easy?

Acknowledge how well they are doing and mention that not everyone finds them easy and it is very impressive to find all of the tasks easy; however, many exercises allow creativity and allow difficulty to be increased, also perhaps it may be time to work on real life examples.

She /he finds some exercises too difficult?

Acknowledge that the tasks are quite difficult and maybe it would be better to employ a different strategy. For example, with Estimation or Stroop tasks, covering up most of the task so that only a small part can be seen can make it less daunting.

She /he finds some exercises too frustrating?

It is worth exploring what part of the task is frustrating: is it because it is too easy or too difficult?

What if the patient says that she/he does not understand the purpose of cognitive remediation therapy and how it is related to their illness?

If it is in the first few sessions you can explain that as the sessions progress the styles of thinking that the tasks evoke will hopefully be linked to real life scenarios and behaviours. If this question is raised further into the therapy sessions it can be helpful to look back at specific tasks that the patient may have been good at, reflecting on and revisiting these examples and expanding on them further.

What can I do if the patient did not do the behavioural experiments we had agreed in the session before?

Obviously find the reason for this. It may be that it was felt to be too much of a challenge when it came to doing the task and they were not sufficiently prepared. With more preparation (i.e. you and the patient discussing the scenario and the thoughts it will evoke) they can either try this task again or maybe something else. The list of behavioural tasks in the manual is helpful for prompting ideas of behaviours to try.

How long should a session last? What can I do if the patient insists on making the sessions longer than what is recommended (because she/he likes it or finds it useful)?

Each session should last between 30 and 45 minutes. The therapy is not intended to be exhausting for the patient. If it is deemed that your patient takes a long time doing the exercises then reduce the number of exercises that can be done in the timeframe allocated. Or it may be the case that your patient spends a long time reflecting on the exercises, which is also useful, but try to get a balance between exercises and reflecting so that the patient has the chance to benefit from both.

Can the therapist promote reflection on exercises during the two first sessions?

From the first session you can probably get an idea of how well your patient is at doing the exercises. If your patient does the exercises very easily, i.e. is good and fast at switching, is good at describing a global figure, etc., but also seems happy and confident to start reflecting on the tasks, then the therapist can start to encourage this in the second session.

When is it recommended to start behavioural experiments?

It very much depends on the individual. Some patients in our experience are ready to start with behavioural experiments from the second or third session; others are ready in the later sessions, e.g. Sessions 6 or 7. We have had a couple of patients

who have not managed to implement in real behaviours the strategies we discussed in the session. With these patients, most of the time was spent reflecting on thinking styles and thinking of different strategies.

APPENDIX A
Example evaluation form

<i>Tasks</i>	<i>X</i>	<i>Exploratory questions</i> <i>What did you learn from these tasks?</i>	<i>Therapist comments</i>
Complex Figures			
Illusion Task I			
Illusion Task II			
Stroop task I		<i>What did they show you about your thinking style?</i>	
Stroop task II			
Main Idea			
Estimation Task			
Card Stack		<i>How do they relate to real life?</i>	

APPENDIX B

Below are descriptions of the neuropsychological assessments used in the pilot study. These are included simply for reference as to what was used to assess patients in our study and are not a prescriptive measure of assessments that have to be used.

The Brixton Test (Burgess and Shallice 1997). Participants are asked to predict the movements of a blue circle, which changes location after each response. A concept (rule) has to be inferred from its movements to make correct predictions. Occasionally, the pattern of movement changes and the participant has to abandon the old concept in favour of a new one.

The Trail Making Task (Kravariti 2001). A computerized version was used in which the task is presented on a visual display unit (VDU) and a mouse is used to respond. There are three levels: a motor control task in which responses are made to a shifting 'ball'; an ascending alphabetic sequence (20-letter task); and an alphabetic and numeric sequence, 20-number/letter task.

Rey Figure (Osterrieth 1944). This complex figure task is used as a means of examining the organizational style with regard to the construction and copying of complex figures. Participants are provided with a blank sheet and the figure is presented. They are asked to copy the figure as carefully as they can. Coloured pencils (which are changed as the subject is drawing) and video recorder are utilized to improve the accuracy of data collection. A scoring system has been developed for central coherence (Booth, 2006). This scoring system produces a Central Coherence Index resulting from independent scores for order of construction, form and style.

The Cat Bat Task (Eliava, 1964; Tchanturia *et al.*, 2002). Participants are asked to fill in missing letters in a written short story as quickly and accurately as possible. In the first part of the story the contextual requirements prompt the participant to fill in the letter 'c' and reconstruct the fragment word as 'cat'. In the second part of the story (the shifting part), the word 'cat' is no longer appropriate and the context requires the participant to fill in the letter 'b' and reconstruct the word as 'bat'. Thus, in the first part, participants are primed for the reconstruction of one word (cat) and in the second part of the task they need to adjust their cognitive set to the changes in context. The number of perseverative errors and the time taken to complete the task are measured.

The Haptic Illusion Task (Tchanturia *et al.*, 2001, 2004; Uznadze, 1966). This is a perceptual set-shifting task. This version uses three wooden balls: two small balls of equal size (5 cm in diameter) and one larger ball (diameter 8 cm). Participants are asked to judge the relative size of two balls in their hands while keeping their eyes closed. First, the larger ball and one of the smaller balls are placed into participant's hands. This process is repeated 15 times (the same ball is placed in the same hand each time). Then, during the 'critical' stage (30 presentations), participants are given the two identical 5-cm balls, one in each hand. They are asked if there is any difference in size between the balls. Most healthy control participants have the illusion that the ball in the hand previously holding the larger ball is the smaller of the two. The number of trials where illusions are experienced is a measure of perceptual rigidity.

RECOMMENDED READING FOR PATIENTS

Obsessive compulsive disorder

- Hyman, B. & Pedrick, C. (1999). *The OCD Workbook – Your Guide to Breaking Free from OCD*. Oakland, CA: New Harbinger Publications. Recommended by many sufferers. A very practical workbook-style approach to overcoming obsessional problems. User-friendly, lots of photocopiable worksheets, etc.
- Veale, D. & Willson, R. (2005). *Overcoming Obsessive Compulsive Disorder – A Self-Help Guide Using Cognitive Behavioural Techniques*. London: Robinson. Useful for those who suffer from OCD and those who care for them.

Perfectionism

- Adderholdt, M. & Goldberg, J. (1999). *Perfectionism: What's Bad About Being Too Good?* Minneapolis, MN: Free Spirit (www.freespirit.com).
- Anthony, M. M. & Swinson, R. P. (1998). *When Perfect Isn't Good Enough: Strategies for Coping with Perfectionism*. Oakland, CA: New Harbinger Publications. This book is clearly written and contains many ideas. It has a specific chapter on dieting and body image.
- Basco, M. R. (1999). . New York: Free Press. This book takes you through the thoughts and experiences of four archetypical perfectionists. The style is warm and easy reading.
- Smith, A. W. (1990). *Overcoming Perfectionism*. Deerfield Beach, FL: Health Communications.

Self-esteem

- Fennell, M. (1999). *Overcoming Low Self-Esteem: A Self-Help Guide using Cognitive Behavioural Techniques*. London: Robinson Publishing (www.constablerobinson.com).

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