

Using Behavioural Experiments in CBT

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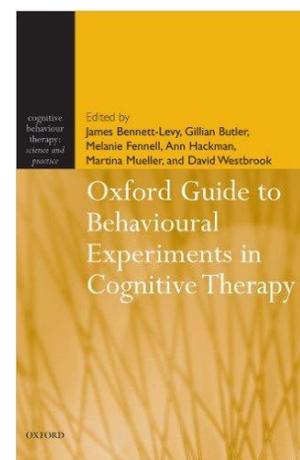
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Acknowledgements

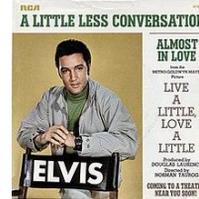
- Alice Kerr, Emma Warnock-Parkes
- John Manley, Blake Stobie
- David Clark, Anke Ehlers, Paul Salkovskis
- Centre for Anxiety Disorders and Trauma (CADAT, London)
- Oxford Centre for Anxiety Disorders and Trauma (OxCADAT)



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Introduction

- “For the behaviour therapist, the modification of behaviour is an end in itself; for the cognitive therapist it is a means to an end - namely cognitive change” (Beck et al, 1979).
- These “behavioural strategies offer the most powerful means to cognitive change in cognitive therapy”, (Wells, 1997).
- “A little less conversation, a little more action please”, (Elvis...)



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Learning Objectives

- To understand the theory behind behavioural experiments
- To know when to use different types of experiments
- To know how to set up and implement behavioural experiments
- To know how best to learn from them and plan next steps
- To know how to use a standard behavioural experiment form

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Definition of Behavioural Experiments

- “... *planned experiential activities*, based on experimentation or observation... primary purpose is to *obtain new information* which may help to:
 - Test validity of existing beliefs
 - Construct and/or test new more adaptive beliefs
 - Contribute to the development and verification of the cognitive formulation.”

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CBT is a doing therapy not just a talking therapy

- NOT about controlling symptoms.
- Getting 'out of your chair' in the session and out of the office.
- Exploring behaviours, processes and predictions in real life, as opposed to talking about the situation or imaginal exposure.



"While your thoughtful analysis is always appreciated, I'd rather see you grab a spoon and help dig."

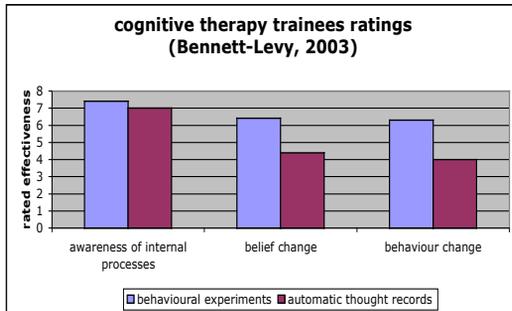
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Isn't this just exposure?

- Exploring maintaining processes
- Testing predictions
- NOT about habituation
- Doesn't have to be long duration
- Focus on reducing safety seeking behaviours
- Behavioural experiments often more effective than habituation
 - Salkovskis et al (2007); McMillan & Lee (2010)
- Craske et al (2014) 'Optimising Exposure' Inhibitory Learning Approach
 - 'Expectancy violation'
 - Eliminate safety signals
- 'Traditional' behavioural and cognitive approaches coming together

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The power of behavioural experiments



- Cognitive therapy for social anxiety disorder
- More experiments for better outcome (Clark et al, in prep)
- Better responders had double number experiments, and more focused on imagery (Warnock-Parkes et al, in prep)
- Experiments more likely before sessions with sudden gains (Thew et al, in prep)

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Types of experiment

- Observational
 - Modelling by therapist
 - Surveys
- Active
 - Discovery experiments: learning about maintaining factors
 - Prediction testing experiments: focused on specific beliefs

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“Show don’t tell”

- CBT is more effective if you model rather than instruct (e.g. Gloster et al, 2011)
- Don’t ask people to do things if you haven’t shown them how to do it!
- So you need to be able to do things with the client
- You have to be prepared to do what you are asking the client to do

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Discovery experiments

- Experiential exercise to investigate possible maintaining factors, especially role of safety behaviours
- No set up or rationale needed
- Quick to use

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Swallow



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Thought suppression

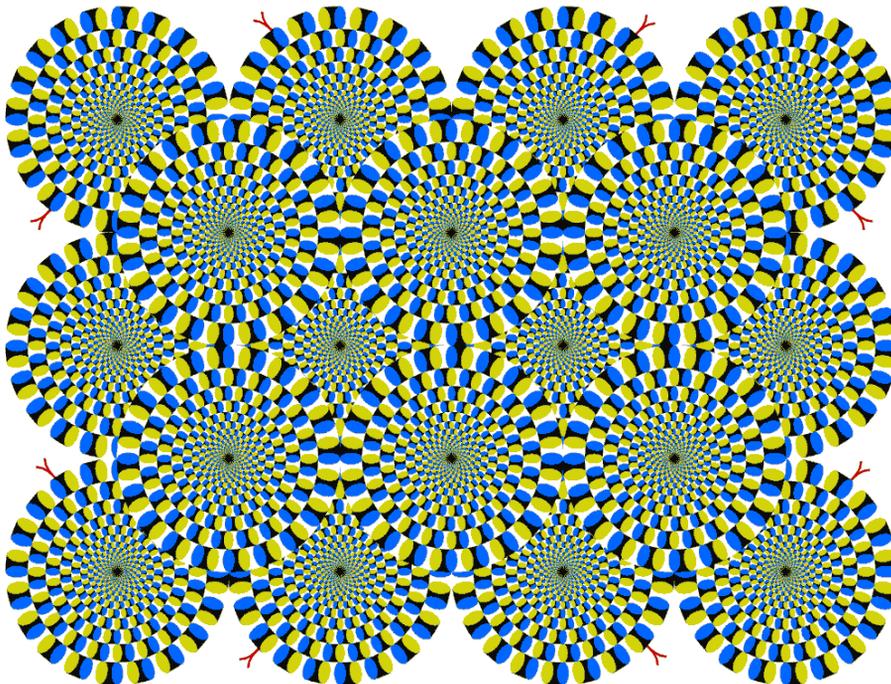


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Attentional focus



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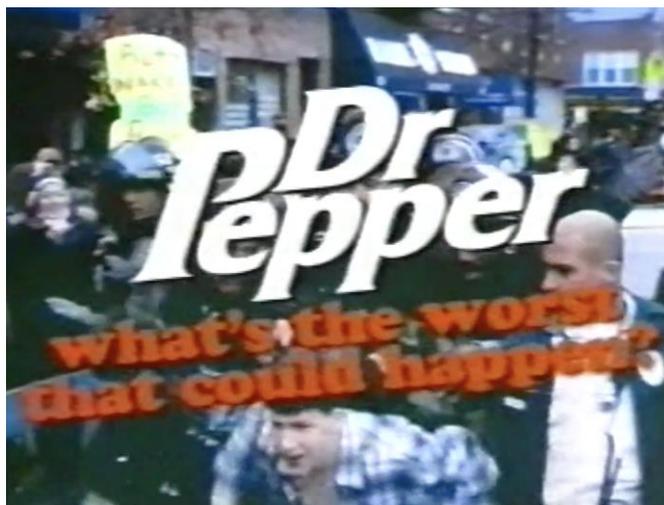
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Hypothesis / Prediction testing experiments

- Most experiments are those testing predictions
- Hence need to identify future-oriented appraisals
- Typically anxiety disorders, but also depression and other presenting problems

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Identifying predictions



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Identifying appraisals / predictions

- Use a recent example
- What was going through your mind at the time?
- What was the worst thing that might have happened?
- If it had happened what would be so bad about that?
- What would that mean about you/to you
- ***Ask about images***



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“Follow the emotion”

- Use of emotion as opportunity to access key appraisals – what is going through your mind right now?
- Accompany person to a situation where problem usually occurs, or create this in the session



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Anxiety and threat: the predictions people make

Anxiety is proportional to the perception of danger

$$\frac{\text{perceived likelihood it will happen} \times \text{perceived "awfulness" if it did}}{\text{perceived coping ability when it does} + \text{perceived rescue factors}}$$

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Anxiety and threat

$$\frac{\text{perceived likelihood it will happen} \times \text{perceived "awfulness" if it did}}{\text{perceived coping ability when it does} + \text{perceived rescue factors}}$$

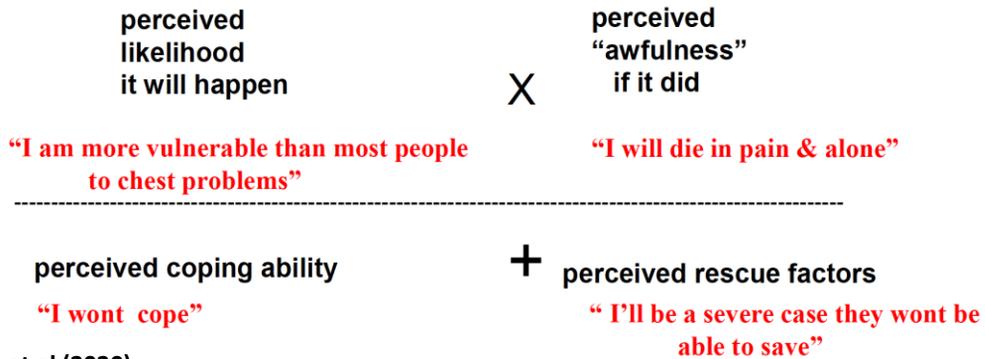
I'll mess up the role play *Everyone will think I am stupid and incompetent*

I won't know what to do next *Others won't help me out*

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Anxiety and threat: understanding the severity of anxiety

Anxiety is proportional to the perception of danger; that is



Salkovskis et al (2020)

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Discussion techniques

- Aim is to *loosen up the belief* enough to try new strategies / behaviours and then *to test out beliefs through behavioural experiments*.
- Don’ t challenge the thought until you have the meaning of the catastrophe
- Remember that meanings may be in imagery
- First elicit evidence FOR the beliefs
- Examine the evidence.
- Then elicit evidence against their belief (= evidence for more adaptive alternative *less threatening* belief).
- Be explicit about the alternative belief.
- Take belief ratings.

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Areas of questioning

- Questions about the meanings
 - overestimating probability
 - overestimating cost
 - underestimating coping
 - underestimating 'rescue'
- Questions about processes
 - Avoidance
 - Safety seeking behaviours
- Synthesising questions



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Alternative explanation

- Client and therapist discuss and assemble the formulation;
“theory A or B”
- Discuss if it fits with past experience
- Explore the implications of the formulation as an alternative
- How can we find out what is actually the case?
(sets up behavioural experiment)



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Setting Up Behavioural Experiments

- Clearly articulate belief to be tested
 - Belief ratings more important than anxiety ratings
- Identify safety behaviours to be dropped
- Identify other changes necessary for good data collection (i.e. focus of attention)
- Specify in advance what outcomes would confirm or disconfirm belief

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Situation	Prediction What do you think will happen? How would you know? Rate belief (0-100)	Experiment What did you do to test the prediction?	Outcome What actually happened? Was the prediction correct?	What was learned Balanced view? (Rate belief 0-100) How likely is what you predicted to happen in the future? (Rate 0-100)

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oxcadatresources.com

Cognitive Therapy for Social Anxiety Disorder

Behavioural Experiments

Cognitive Therapy for PTSD

allcome trust

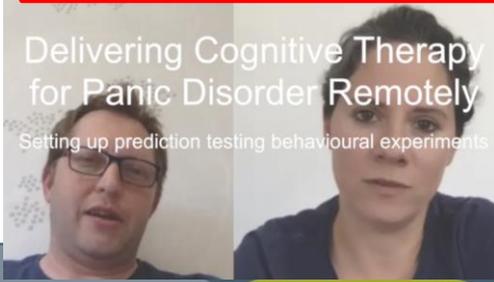
NHS
National Institute for
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College
LONDON

<https://oxcadatresources.com>

Delivering Cognitive Therapy for Panic Disorder Remotely

Setting up prediction testing behavioural experiments



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NHS
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Situation	Prediction	Experiment	Outcome	What was learned
In toilet	I'll get ill (95%). I'll pass this on to others. Others will get ill (40%)	Touch hands on toilet. Don't wash them afterwards. Go and eat lunch (push the wall!)	I felt anxious but this went away quickly and I didn't fall ill	More evidence for theory B – that it is my belief that I'll contaminate others that is the problem.

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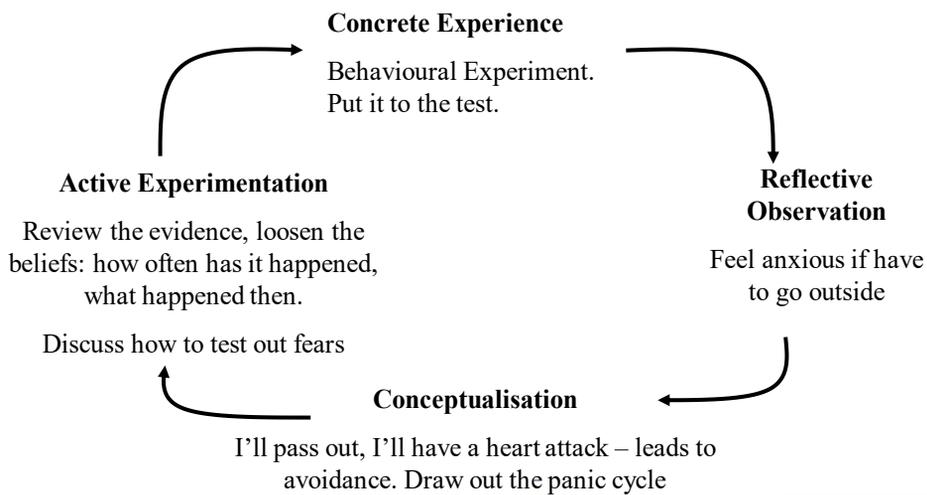


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Situation	Prediction	Experiment	Outcome	What was learned
Go out for walk far from the house	When my heart races and I feel lightheaded I'll pass out (95%) or have a heart attack (90%)	Go to the shopping centre – allowed myself to get excited. I didn't sit down or use valium or my phone	I didn't pass out or have a heart attack. I did have a panic attack when I heard the loud bus – but that didn't kill me either	Maybe the panic attacks wont kill me but I was with Nick and Blake and then still Heather (cameraper son). It can get worse than that

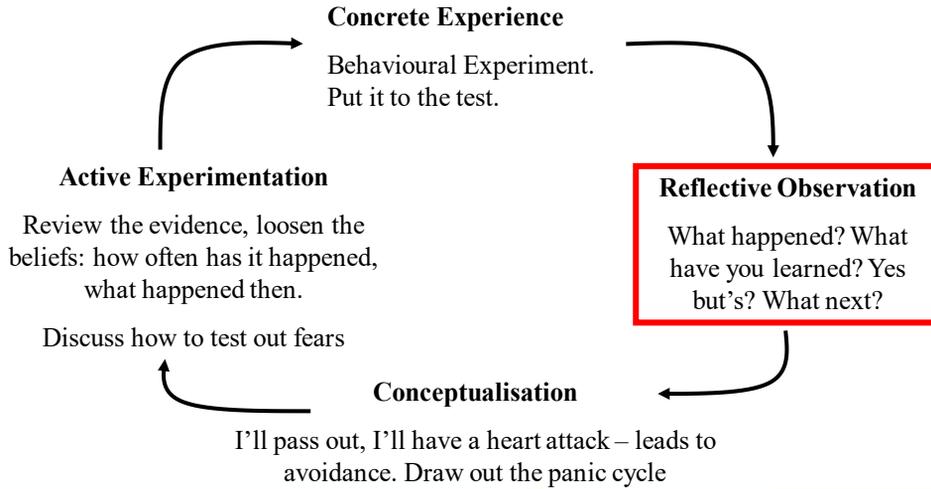
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Sue's learning cycle

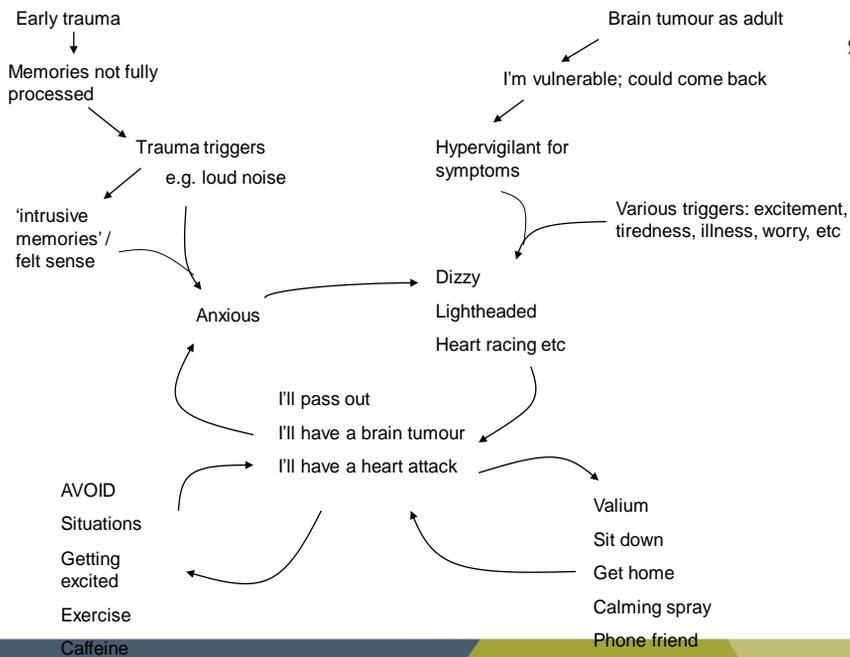


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Sue's learning cycle

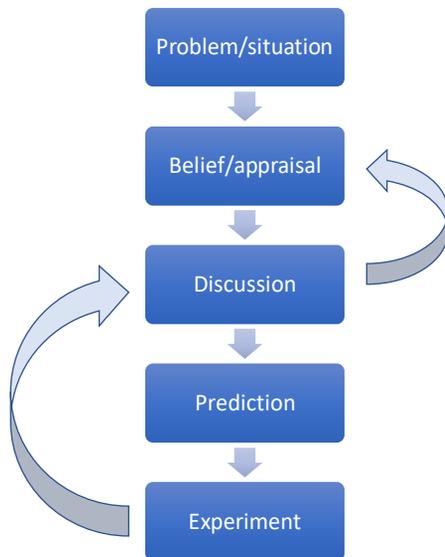


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Flow of treatment



- Experiments flow from threat appraisal and discussion of evidence for this
- Results of experiment are fed back into discussion and process continues
- Synthesising and generalising learning

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Afterwards

- Review outcome of experiment and assess change in belief - take ratings
- What are the 'yes but's'?
- If belief hasn't changed
 - What was unconvincing?
 - Were safety behaviours dropped?
 - Plan follow-up more convincing test
- Discussion and experiment interweaved

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- Did you notice anything earlier in the webinar?
- Anything surprising for you?
- Anything that I did?
- If so, what did you make of this?
- What implications for the webinar?

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Situation	Prediction	Experiment	Outcome	What was learned
Giving workshop	<p>People will think that I don't know what to say (80%).</p> <p>It'll throw me off track for the rest of the presentation (70%)</p> <p>They'll giggle & look at watches (90%)</p> <p>They'll slag me off in the break (70%)</p>	<p>Deliberately pause for 10 seconds.</p> <p>Look for reaction.</p> <p>Ask for specific feedback later.</p>		

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Using the record sheet

- If it isn't written down it didn't happen!
- Show don't tell – start the writing and pass it over to the person
- Be specific and concrete
- How would you know if your predictions were accurate?
- Focus on **whether predictions occurred** rather than level of anxiety
- Need to use it systematically in order to enhance the **learning**

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RECORD SHEET FOR NOTING BEHAVIOURAL EXPERIMENTS

Date	Situation	Prediction (What exactly did you think would happen?) How would you know? (Rate belief 0-100%)	Experiment (What did you do to test the prediction?)	Outcome (What actually happened? Was the prediction correct?)	What I learned 1. Balanced view? (Rate belief 0-100%) 2. How likely is what you predicted to happen in future (Rate 0-100%)?
Thu 10 th	in session telling Nick move time off work	Nick will be angry and he'll say so Nick will be disappointed and he'll say so.	told Nick and said attention to his reaction and what he said.	He took it well not annoyed or disappointed Not correct.	What I expect to happen won't necessarily happen
Tues 25 th	travelling to restaurant/ cafe & being in there with brother.	Feel nervous, anxious People will notice they'll think I'm strange They'll watch me for 10mins stare/staring [silly]	went on train walked up to office went for drink brought drink & carried them to table travelled home on train	was very nervous train journey not too bad - did go over being near work in thoughts very nervous & anxious approaching office & waiting to meet brother went for drink but lost away in conversation but managed to drink occupying	train journey slightly easier than expected but still very nervous & anxious walking towards work waiting for brother Did feel/see people look at me but maybe just noisy. train journey successful

Experiment using therapy relationship (circled in red)

My writing (circled in red)

Her writing (circled in red)

Focus on LEARNING (circled in red)

Focus on outcome of PREDICTIONS (circled in red)

*I don't think I really did show the signs of anxiety
• People didn't notice any signs of anxiety
• No-one intensely watched me for 10 mins*

*it
my prediction didn't come true
→ shouldn't really predict because it might not come true
→ by predicting the making things worse for myself*



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1st 28th	Going for drink + cheese	Will be anxious + shaky. Will have to go in cab - scary. <i>other people will see me</i>	Tried to be outwardly focused + concentrate on conversation.	was able to concentrate on conversation. felt pretty much OK. <i>no sign that other people will see me</i>	Not as difficult as expected. Simon noticed man on next table holding glass with two hands - I didn't.
Sat 29th	Going to [redacted]	Will be anxious + shaky. Will go on bus.	Tried to look around - river scenery -	Very relaxing. Enjoyable day.	Not anxious.
Mon 01st	Going to [redacted] on train	Anxious about train journey.	Tried to be outwardly focused on train + in shops	No problems. Watched people in cafe lounge. Simon read magazine.	Things are getting easier.
Tues 02nd	Going up train on train [redacted] Garden.	Not looking forward to train journey + lots of people around.	Brought theatre tickets. went forward to office + ordered tickets external.	Simon [redacted] good back + go forward	Didn't realize - normal behaviour. Got lost in situation.

other people will see me
7/6

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Date	Situation	Prediction (What exactly did you think would happen? How would you know?) (Rate belief 0-100%)	Experiment (What did you do to test the prediction?)	Outcome (What actually happened? Was the prediction correct?)	What I learned 1. Balanced view? (Rate belief 0-100%) 2. How likely is what you predicted to happen in future (Rate 0-100%)?
Wed 10 Oct	going to meet John for lunch	I'll be nervous on train. I'll be shaky (80%). people with notice people will stare at me for 5 minutes (50%). they'll think I'm strange told by the way that they look at me - inquisitive + intense (50%)	go on train. look at others to get their info.	Train journey OK. Outwardly focused. (30%) Very nervous, anxious, shaky + sweaty waiting to meet John. Arrive road from office.	
Thurs 4 Oct	Going to hairdressers	Terrified. Being sick I'll shake, [redacted] Hairdresser will notice + say something. (100%)	went to hairdresser took to hairdresser	was shaky + [redacted] sitting	Still not all comfortable in situation. Hairdresser didn't say anything + she did notice I may not come across at best as I feel

7/6



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Date	Situation	Prediction (What exactly did you think would happen? How would you know?) (Rate belief 0-100%)	Experiment (What did you do to test the prediction?)	Outcome (What actually happened? Was the prediction correct?)	What I learned 1. Balanced view? (Rate belief 0-100%) 2. How likely is what you predicted to happen in future (Rate 0-100%)?
25/10	Going to Dentist	Dentist would see I'm nervous - say something. I would be jittery.	Focused on what Dentist said.	I think she realised I was nervous but was very reassuring.	Focused on dentist + assistant conversation + didn't get jittery. Not looking forward to next time though.
31/10	Going to meet [redacted] for lunch across road from office.	Very anxious + nervous. People will notice I'm nervous. <i>the way they look at me inquisitive</i>	Travelled by train looking around + taking notice of things around me. Looked at people while I was waiting for Sbr.	No-one seems to notice me or notice I was nervous - too busy dashing about.	Still nervous of being near office but easier when concentrating on other peoples reactions to me. Travelling OK.
31/10	Went to local shopping + market.	Thought assistant would notice nervous shaking. May stutter words.	Asked for goods (engine) for shopping.	No-one seemed to notice if I was shaky. <i>but I felt what I said overall.</i>	No-one noticed - no strange looks - + no-one said anything like are you OK?

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RECORD SHEET FOR NOTING BEHAVIOURAL EXPERIMENTS

Date	Situation	Prediction (What exactly did you think would happen? How would you know?) (Rate belief 0-100%)	Experiment (What did you do to test the prediction?)	Outcome (What actually happened? Was the prediction correct?)	What I learned 1. Balanced view? (Rate belief 0-100%) 2. How likely is what you predicted to happen in future (Rate 0-100%)?
03/11	Going to local shop	Shaky - assistant will notice + say something or look at me strangely.	Very shaky when accepting change.	Nothing was said + I didn't get any strange looks.	More confident therefore shaking not as bad as predicted.
05/11	Going on train to [redacted] on my own.	Nervous - people might notice + stare.	Looked around at people on train.	No-one really took any notice of me.	Easier than expected. <i>people don't notice how I'm feeling when I'm really bad</i>

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RECORD SHEET FOR NOTING BEHAVIOURAL EXPERIMENTS

Date	Situation	Prediction (What exactly did you think would happen? How would you know?) (Rate belief 0-100%)	Experiment (What did you do to test the prediction?)	Outcome (What actually happened? Was the prediction correct?)	What I learned 1. Balanced view? (Rate belief 0-100%) 2. How likely is what you predicted to happen in future (Rate 0-100%)?
8/11	Meeting in cafe lounge	Might not be able to wait alone in cafe. Very nervous people will look at me especially because I'm alone	Went in cafe + ordered drink. Sat at table on my own for about 10 minutes before [redacted] came	Was as nervous as I thought. Looked around + no-one seemed to take much notice of me.	I think I could do it again OK.
16/11	Going Xmas shopping with [redacted]	A bit apprehensive about shops being very busy. Not a good day - quite shaky + sickly feeling.	Met up with [redacted] - stopped for hours. Stopped for lunch - very shaky when eating soup. Went to wine bar after shops - very crowded + noisy but went OK	Managed to go shopping OK. Felt shaky but no-one seemed to notice. At bar restaurant - but not very nervous. Noticed people must be just how I felt not how I looked.	Overall OK. Not really noticed by anyone. Would be able to do it again.

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Behavioural experiments in depression

- Engagement: predictions about therapy
 - This is a waste of time
 - It won't make any difference
- Behavioural Activation
 - Increase activities and pleasure
 - Discovery or prediction testing
 - I won't be able to do it
 - I won't enjoy it
 - I'm too tired

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The cognitive triad: behavioural experiments

- Predictions about self
 - Pushing myself (criticising) helps
- Predictions about the world
 - Life is impossible
 - The world is just full of pain
- Predictions about the future
 - I'll always be like this
- PLUS: predictions about others
 - They won't want to know me
 - They'll think I'm useless / stupid

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Testing assumptions and beliefs

- Testing assumptions
 - If... then...
 - If I can't do it perfectly then it's not worth doing
- Testing core beliefs
 - I'm a failure
- Collect evidence both about *specific* situations, and *general* beliefs

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Situation	Prediction	Experiment	Outcome	What was learned
Talking to colleagues at work	I'll say something stupid. They'll notice and think I'm stupid. They'll look at me funny or laugh This will just be more evidence that I am useless.	Speak to them, stay externally focused, don't monitor myself or hold back.	I was pretty anxious but it was ok I guess. No one looked at me funny or laughed.	My prediction wasn't right. Maybe I'm not as stupid as I think. This is some more evidence that I am a bit capable and not completely useless

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Using the therapeutic relationship as an experiment

- How did you think I would react?
- Did I react as you predicted I would?
- What evidence either way?
- What can you learn from this?
- What are the next steps?
 - How it generalises to other relationships, or can be put to the test in other relationships
- What 'yes, but's'?

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Situation	Prediction	Experiment	Outcome	What was learned
In session telling Nick I'm going to have more time off work	He'll be angry and disappointed and he'll say so	Told Nick and paid attention to his reaction and what he said	He took it well and wasn't angry or disappointed	Maybe what I think is going to happen, or how people are going to react, isn't always right

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Surveys

- Getting more information
- Go from general to specific beliefs
- Get client predictions
- Be ahead of the 'yes but's'
 - What evidence counts
- How gather evidence
 - Email, video, SurveyMonkey etc.

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Survey videos

Surveys are sometimes used in cognitive therapy to provide patients with additional information about what other people think about some of the things that concern the patients. These video clips are taken from our internet cognitive therapy programme and illustrate street surveys in which people were asked their opinion on several of the common concerns of people with social anxiety disorder. In face-to-face cognitive therapy, survey questions are collaboratively developed with patients so they can address each patient's idiosyncratic beliefs.

- 1. Street survey- Stumbling over words
- 2. Street survey- Blushing
- 3. Street survey- Feeling boring
- 4. Street survey- Making mistakes
- 5. Street survey- Sweating
- 6. Street survey- Shaking



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Problems in practice

- Getting people to face their worst fears
 - Guided Discovery
 - lets see, not to prove you wrong
 - Pace, feedback, “yes, but...”s
- While doing experiment
 - Safety behaviours?
 - What stopped it (prediction) happening?
- How long / how often?
- Homework
 - flashcards / phone in / text reminders
- Therapist beliefs and anxiety!

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When not to use prediction testing behavioural experiments

- When rationale not understood
- When not had discussion of evidence
- When particular factors get in way of processing new information
 - “Too much” emotion
 - Too little emotion
 - “Too tired”
 - Rumination

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Testing therapist beliefs

- About specific CBT techniques
 - Setting agendas
 - Recording sessions
 - Doing behavioural experiments!

- What are the safety seeking behaviours
 - Doing things 'half hearted' or apologetically
 - Not following work up

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Behavioural Experiments

- Important, powerful, scary, fun

- Discovery experiments

- Prediction testing experiments
 - Follow the emotion
 - Get specific beliefs (remember images!)
 - Reduce / eliminate safety behaviours
 - Show don't tell
 - "Yes but's" lead to further experiments
 - Generalise learning

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- What will you take away from today?
- What will you do differently?
- Write it down
- Tell someone
- Make a SMART plan for when this will happen

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