

# Cognitive Remediation and Emotion Skills Training CREST 2008-2012

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# Aims

Adapt/develop and pilot Emotion Skills training;  
10 sessions:

- 1) Evaluate qualitative feedback from patients
- 2) Evaluate quantitative changes in neuropsychological measures



# Development of CREST: Focus groups AN-Emotion

- We had four groups:  
2 x Patients, 1 x Carers, Clinicians
- Aim to identify overlapping and most common themes relating to emotions  
*(Kyriacou, Easter, Tchanturia – Journal of Health Psychology, 2010)*
- *Focus groups + tailoring OP module + experimental research = CREST*

# Focus Groups

- Patients, Carers, Clinicians
- Difficulties with

Tolerance – Understanding - Expression

*I think it's also an issue of identifying emotions.... Other people, if you ask them how do they feel they just don't know, and I'm like that quite a lot.*

*..if someone has a really good day, and they're happy and smiling, then the next couple of days they're miserable and guilt-ridden*

*[if I show my feelings]  
I'm scared I'll be exposed to being exploited and seen as vulnerable*

# Cognitive Remediation and Emotion Skills Training (CREST) manual was created

Cognitive Remediation (2 sessions)  
Flexibility, Bigger picture

Emotion (8 sessions, 5 Themes)  
Brain and emotions (how it works?)  
Recognising emotions in others and ourselves  
How we accept, tolerate and manage emotions  
How to express emotions and needs  
Relationships and communication

# Cognitive Remediation and Emotion Skills Training (CREST) vs. TAU

TAU  
T1 33  
T2 25



TAU and  
CREST  
T1 47  
T2 29

# The clinical and research team



# CREST: Cognitive Remediation and Emotion Skills Training manual structure

- 10 session manualised intervention focused on emotional skills
- Covers 6 themes:
  1. Thinking about thinking
  2. Thinking about emotions
  3. Recognising your emotions
  4. Managing your emotions
  5. Expressing your emotions
  6. Recognising and interpreting other people's emotions



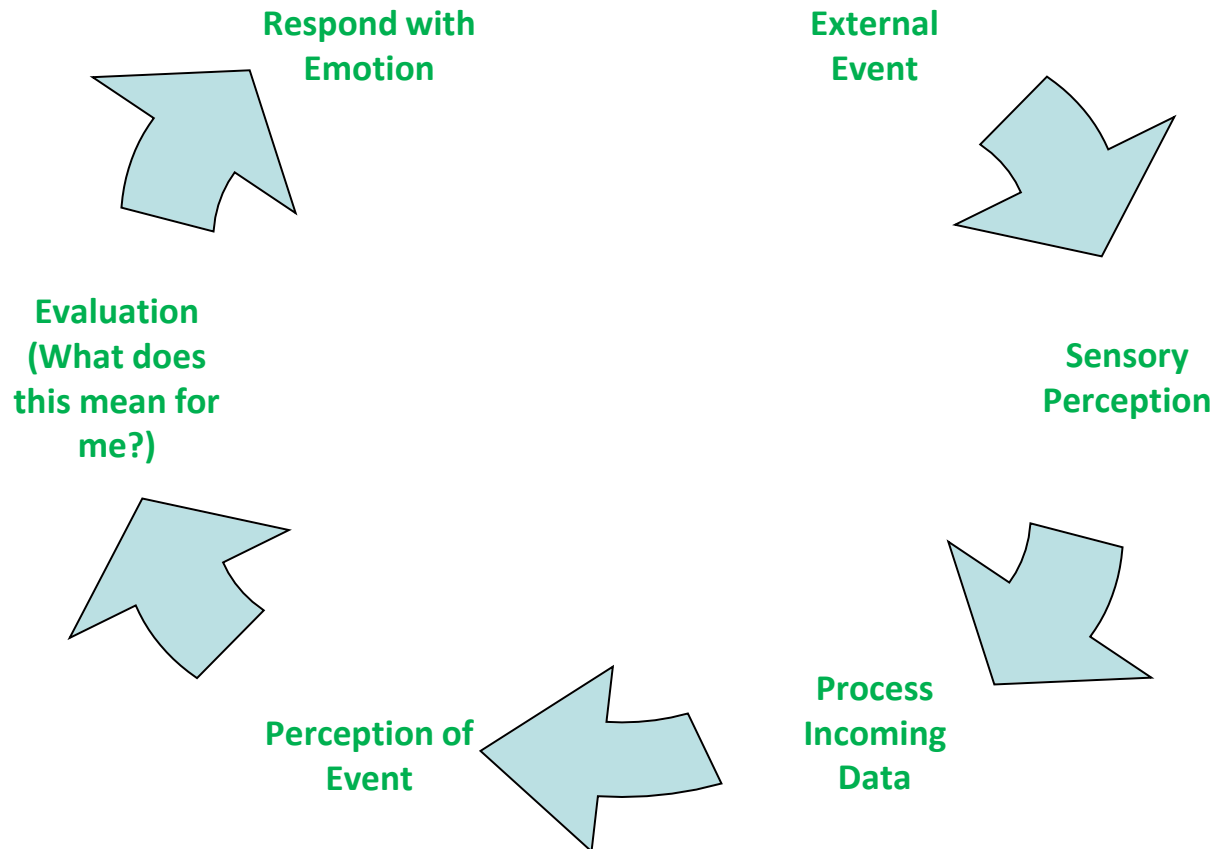
Thinking about emotions

# Thinking about emotions:

- Aims for patient:
  - To learn about how emotions are processed
  - To understand the link between emotions and thinking
  - To learn about the physiological response to emotions

# Thinking about emotions: Exercises

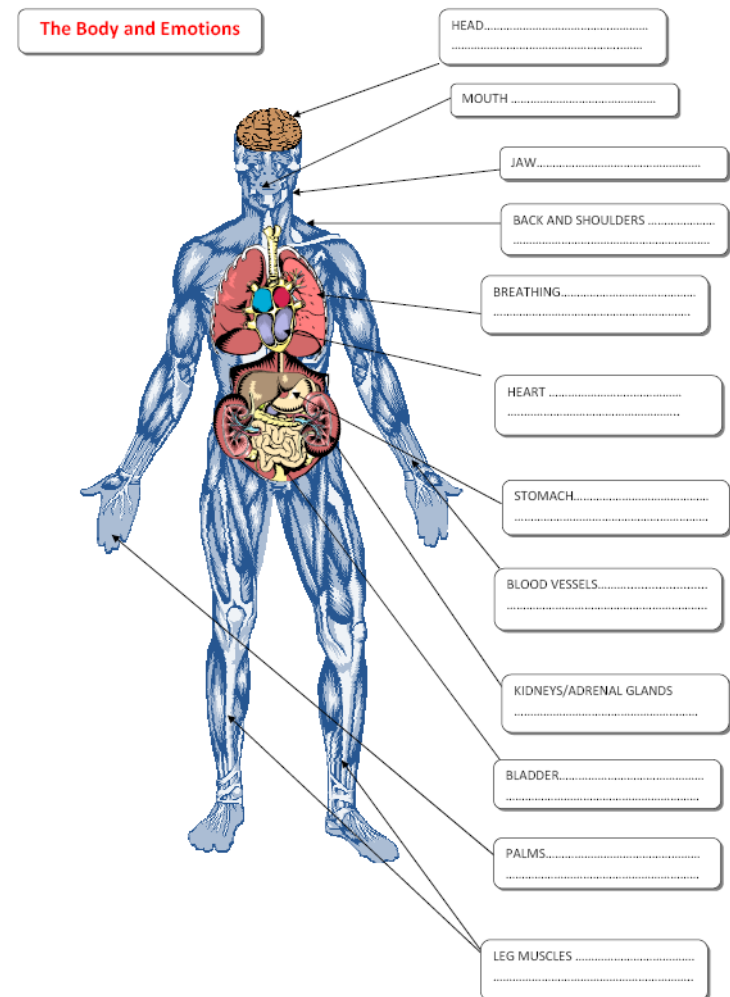
## The Emotion Processing Cycle:



# Thinking about emotions: Exercises

## **Emotions and the Body:**

Ask the patient to choose an emotion they find difficult to tolerate e.g. anxiety and ask them to fill out what happens to the various parts of their body when they are feeling this emotion.



Recognising your emotions

# Recognising your emotions

- Aims for the patient:
  - To recognise and label different emotions
  - To understand that emotions can change
  - To learn about both basic universal emotions and more complex emotions
  - Putting emotions in context

# Recognising your emotions: Exercises

## Emotion Words:

Therapist to patient:

### 1. **Underline how you feel now?**

1. Are these positive or negative emotions?
2. How does it feel in your body?
3. Have you ever felt like this before?
4. Is it surprising there is more than one feeling?

### • **Underline how would you like to feel?**

1. Can you think of a time when you have felt like that before?
2. How did that feel in you body?
3. What is usually happening around you when you feel this way?

#### Emotion Word List

Abandoned, Abrasive, Accommodating, Adored, Affectionate, Afraid, Aggressive, Agreeable, Awkward, Alienated, Altruistic, Amused, Angry, Annoyed, Anxious, Avoidant

Betrayed, Bitter, Blessed, Bored, Bothered, Brave, Bursting, Blue, Belittled, Bad, Brilliant, Blamed, Blissful, Beautiful

Calm, Careless, Caring, Celebrating, Charming, Cheerful, Cherishing, Cold-blooded, Comfortable, Compassion, Competitive, Confused, Cool, Creative, Crucified, Crushed, Cheated, Controlled

Defensive, Delicate, Delighted, Depressed, Desirable, Discontented, Disgust, Distracted, Dull

Eager, Earnest, Easy, Enjoying, Enthusiastic, Exited, Euphoric, Energised, Elated, Effective, Energetic, Empowered, Empathic, Edgy, Embarrassed, Envious

Fascinated, Fear, Frustrated, Funny, Furious, fearless, Fortunate, Fragile, Fidgety, Fulfilled

Giggly, Glad, Glee, Gloomy, Grateful, Guilty, Gentle

Happy, Hectic, Hilarious, Hopeful, Horrific, Humorous, Hurt, Happy, Heroic, Helpful, Hostile, Heartless, Hateful

Impressed, Impulsive, Inflexible, Insensitive, Inspired, Interested, Intimidated, Irritated, Incensed, Infuriated, Irate, Intelligent, Influential

Jealous, Jittery, Jolly, Jubilant, Joyful, Jumpy

Lively, Lonely, Lost, Loved, lovely

Mad, Manic, Melancholic, Merry, Mindful, Miserable, Moved,

Nervous, Numb

Optimistic, Overwhelmed, Out-of-control

Passionate, Passive, Panicky, Pleased, Proud, Petrified, Peaceful, Positive, Paralysed, Powerful, Pissed-off

Reckless, Refreshed, Romantic, Restless, Resistant, Ruthless, Resigned, Rejected, Receptive, Relaxed, Revitalised, Refreshed

Safe, Satisfied, Scared, Secure, Seduced, Selfish, Sentimental, Shamed, Shy, Strong, Self-reliant, Serene, Soothed, Sympathetic, Surprised, Shocked, Stressed

Tolerant, Tranquil, Troubled, Twitchy, Thrilled, Talented, Tender, Terrified, Tense, Threatened, Tentative, Tolerated

Uncomfortable, Unhappy, Understood, Unpopular

Victimised, Vulnerable, Vigorous, Vivacious, Vehement, Vindictive, Violent

Warm, Worried, Worthless, Wise, Worthy, Wild, Wanted

# Recognising your emotions: Exercises

## **Describing Emotions:**

Therapist to patient:

1. Choose some words that are difficult to recognise and continue to explore these and identify with them using the following questions.
2. Now pick out a more pleasant emotion and explore it in the same way

If \_\_\_\_\_ were an animal, what would it be?

If \_\_\_\_\_ were a colour, what would it be?

If \_\_\_\_\_ were a flower, what would it be?

If \_\_\_\_\_ were a sound, what would it be?

If \_\_\_\_\_ were a pop song/piece of music, what would it be?



# Managing your emotions

# Managing your emotions

- Aims for the patient:
  - Recognise current emotion management strategies
  - Pros and cons of different strategies
  - Discovering alternative strategies

# Managing emotions: Exercises

## Managing Difficult Emotions:

### Therapist to patient:

What do you do to manage difficult or upsetting emotions?  
Do you bottle them up perhaps? Or squash them?  
What feelings do you bottle up? Do you ever express them? How do you do this?

Fill in this worksheet in the session and discuss

BOTTLE UP	AVOID
EXPRESS	FREEZE



Learning to manage extreme and overwhelming emotions

How does dealing with your emotions in this way help?

.....

What are the problems with dealing with your emotions like this?

.....

What alternative ways can you try to help you deal with your emotions?

.....

# Managing emotions: Exercises

## Intervening Early:

Ask the patient to think of an emotion they find difficult to manage (e.g. anxiety, anger)

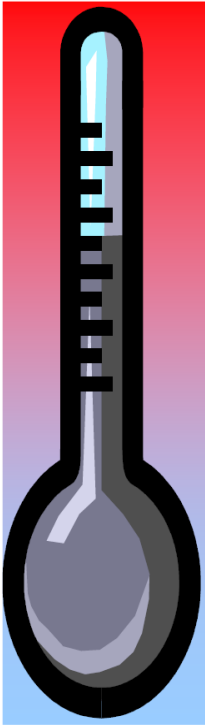
List the varying levels of this emotion and corresponding sensations and behaviours (least intense to most intense)

Discuss at what point the patient could intervene and prevent escalation

For homework suggest strategies to manage these difficult emotions

e.g. relaxation exercise, positive self talk, time out, asking for support.

### Emotion Thermometer –

Emotions:	<u>Intensity of emotions</u>	Sensations, how does it feel, what are you doing?
10.....		10.....
9.....		9.....
8.....		8.....
7.....		7.....
6.....		6.....
5.....		5.....
4.....		4.....
3.....		3.....
2.....		2.....
1.....		1.....

Expressing your emotions

# Expressing your emotions

- Aims for patient:
  - Recognising current strategies to communicate emotions
  - Understanding emotions communicate needs
  - Learning the benefits of expressing emotions
  - How to get needs met

# Expressing your emotions: Exercises

## Current ways of communicating needs:

### Therapist to patient:

Practising recognising what you feel and what you need.

Try this short quiz to see how you go about getting your important needs and feelings met from people close to you.

For each statement below indicate how often you act in each way by ticking rarely, sometimes or mostly.

How do I signal my needs	Rarely	Sometimes	Mostly
I ask assertively by explaining my feelings and asking for what I need.			
I wait for others to see into my mind and know what I feel and need.			
I give up on any hope that others can meet my needs and sink into sadness.			
I bottle up my feelings, but secretly show how unhappy or angry I am with little signals like refusing to speak or not eating and leaving others to guess what I need.			
I rebel against the injustice of being ignored by letting rip with my anger and demanding that my needs are met.			
I don't really know what I feel or need, but I know what I don't want and hope that others will guess for me.			
I don't feel anything and don't know how I signal my needs.			

# Expressing your emotions: Exercises

## **Emotions and Needs:**

Ask the patient to consider what each of the following emotions may be communicating

e.g. anger may be communicating you need to resolve something.

People experiencing....

- **Happiness** are communicating that they .....  
.....
- **Sadness** are communicating that they need.....  
.....
- **Anger** are communicating that they need.....  
.....
- **Shame** are communicating that they need.....  
.....
- **Fear** are communicating that they need.....  
.....
- **Disgust** are communicating that they need.....  
.....
- **Envy** are communicating that they need.....  
.....
- **Guilt** are communicating that they need.....  
.....



# Expressing your emotions: Exercises

## **Scripting Approach:**

### Therapist to patient:

1. Think about a situation in which you found it difficult to identify needs or feelings or where you ignored them
2. Now, let's think about how the situation might have turned out if you had recognised and listened to your feelings and needs. What might you have done differently to get those needs be met?

Fill out the worksheet again.

#### EVENT:

Where were you?

Who were you with?

What happened?

#### FEELINGS:

What was the main feeling?

What other feelings were there?

How did this feel in your body?

#### NEEDS:

What do you think these feelings were telling you that you needed?

Did you meet any of these needs? Which ones?

Did you ignore any of these needs? Which ones? Why did you ignore them?

#### CONSEQUENCES:

What was the outcome?

How did you feel afterwards?

Emotions in others

# Emotions in others

- Aims for patient:
  - Increase awareness and understanding of other people's emotions
  - To recognise and interpret verbal and non verbal emotion signals

# Reflections

1. What have you learned about yourself from this therapy?
2. Were there any aspects that were especially helpful?
3. Were there any aspects that you felt were unhelpful?
4. What do you think could be improved?
5. Let's think about the strategies you've learnt and how they can be used in the future.

# Patients

- **28 patients** completed end of therapy reflections after 10 sessions of CREST
- All inpatients being treated for AN

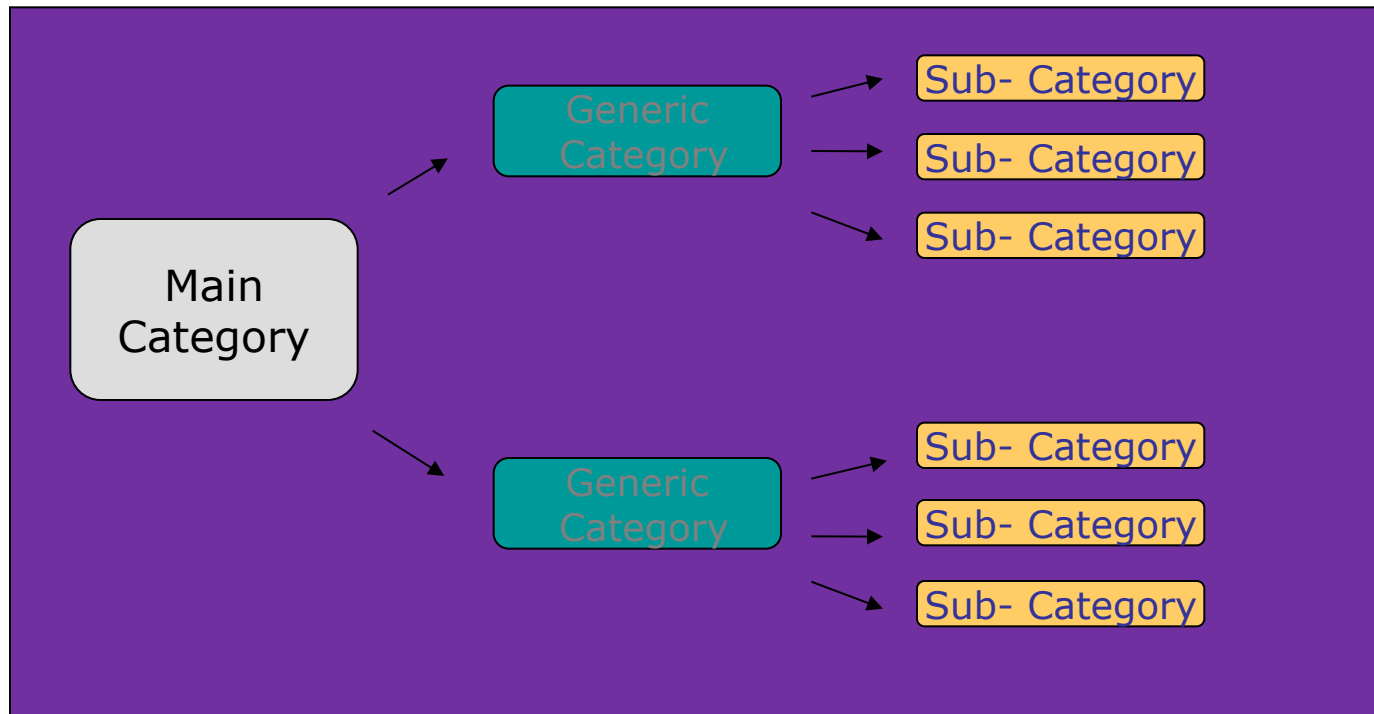
**Money C, Genders B, Treasure J, Schmidt, Tchanturia K. (2011)**

A brief emotion focused intervention for inpatients with anorexia nervosa:

A qualitative study. Journal of Health Psychology. 16(6):947-58 PMID: 21441359

# Analysis

- 2x researchers separately analysed all responses
- Searching for categories:



- Researchers met to reach consensus about generic and sub-categories

# Most frequently reported themes

*Data is presented in Money et al 2011*

- Patients had learnt a lot about themselves and “discovered” things they could do to help themselves
- There were things they would like to do more of
- Recognised the difficulties they had acknowledging and expressing emotions
- Labelling, communicating and positive attitude were most helpful strategies learnt
- Greater awareness and understanding e.g. positive intention of emotions

**Money C, Genders B, Treasure J, Schmidt, Tchanturia K. (2011)**

A brief emotion focused intervention for inpatients with anorexia nervosa:

A qualitative study. *Journal of Health Psychology*. 16(6):947-58 PMID: 21441359

# Other important topics

- Increased self esteem/assertiveness
- Liked task based/practical approach, homework and space to talk/reflect
- Empathy/relationship with therapist important
- Quite a general consensus on the parts they didn't like – certain topics-other peoples emotions...
- Several wanted more sessions



# Conclusions from qualitative study

- Emotion skills focused therapy appears to be acceptable and well received by patients with AN
- Secondary benefit of raising self esteem/assertiveness
- Therapy should focus on emotional awareness/psycho-education, encouraging emotional expression and positive approach
- Content analysis of patients experiences useful in developing novel interventions – highlighting areas for improvement and areas shown to be effective.

# Most of the patients found useful labelling emotions exercise in CREST



# Positive psychology related exercise was highly valued



- Simple pleasures toolkit
- Three good things

Quantitative study

# Clinical and Demographic Measures

- Body Mass Index & Illness duration
- Eating Disorders Examination Questionnaire  
(Cooper and Fairburn, 1987)
- Depression, Anxiety and Stress Scale (Lovibond and Lovibond, 1995)
- Obsessive Compulsive Inventory (Foa, et al. 2002)
- National Adult Reading Test (Nelson and Willison, 1982)

# Experimental Tasks

- WCST
- Brixton Set Shifting Task
- Group Embedded Figures
- Reading the Mind in the Eyes
- Emotion Expressivity tasks – Film
- Emotion Expressivity task - Talk

# Self report Questionnaires

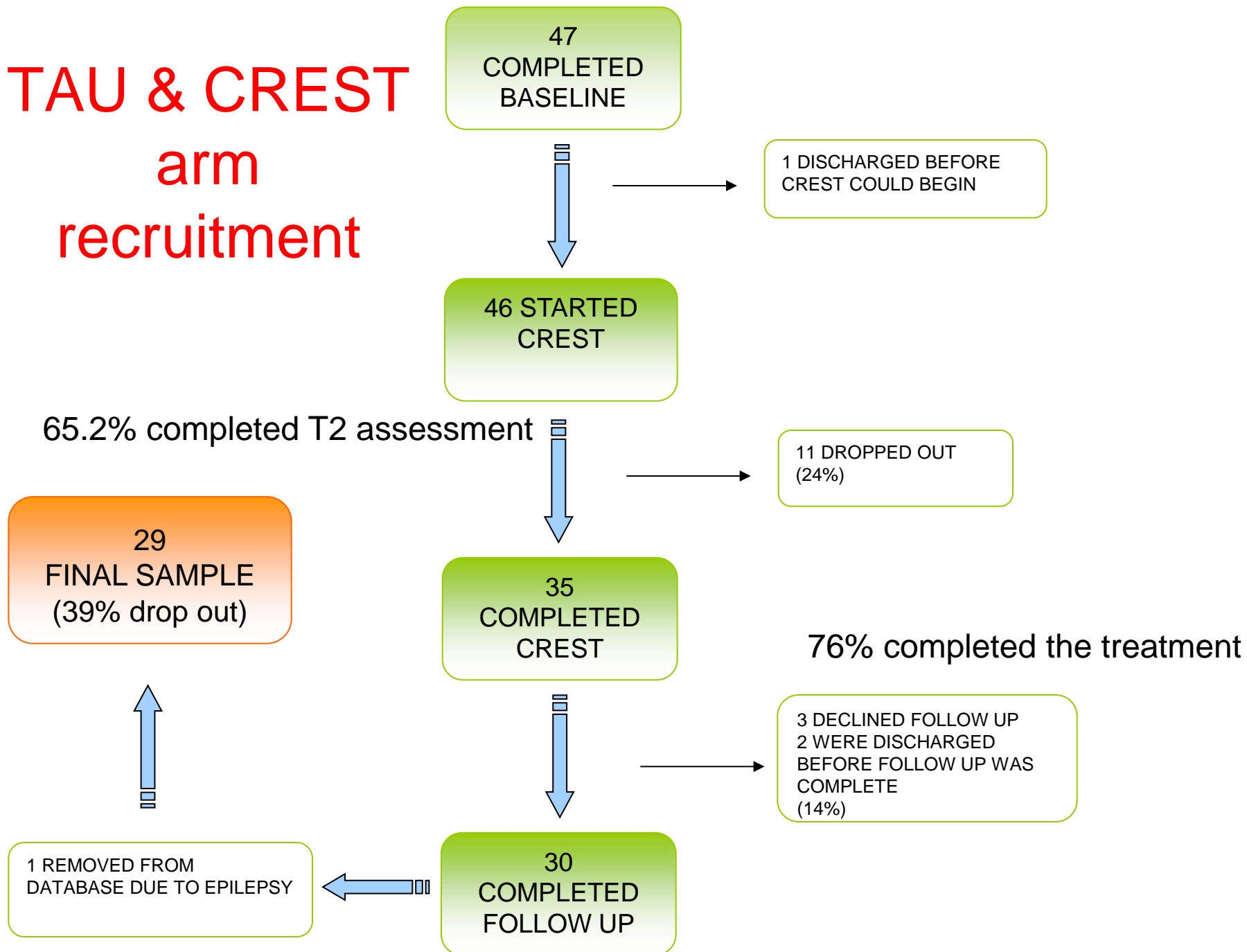
- Emotion Regulation Questionnaire (*Gross and John, 2003*)
- Difficulties with Emotion Regulation Scale (*Gratz and Roemer, 2004*)
- Emotion Expressivity Scale (*Kring et al., 1994*)
- Social Anhedonia Scale (*Chapman et al. 1976*)
- Toronto Alexithymia Scale (*Bagby et al, 1994*)
- Motivational Ruler
- Patient Satisfaction Questionnaire

# Demographics

	CREST (London) Mean (SD)	TAU (Manchester) Mean (SD)	<i>p</i> value (W)
Age	26.1 (7.6)	26.0 (7.9)	0.85
IQ	105.8 (8.1)	104.5 (7.8)	0.31
Duration of Illness	10.6 (7.0)	9.9 (7.6)	0.52
Lowest ever BMI	12.0 (1.9)	12.9 (1.2)	0.13
Highest ever BMI	18.6 (3.5)	19.8 (3.2)	0.13



# TAU & CREST arm recruitment



# Quantitative data Challenges:

- Self report data was very difficult to obtain  
(e.g we had 24% return rate in the London group CREST+TAU and 17% in Manchester group TAU)
- Neuropsychological assessments CREST=TAU group (65.2% -T2 assessment)  
TAU (73%-T2) assessment

NO SIGNIFICANT DIFFERENCES BETWEEN THE  
GROUPS

# After ARIADNE

Therapists and patients as well as senior team are keen to continue offering CREST in individual and group format

Very low BMI patients can engage and benefit from CRT and CREST

# CREST outcomes

Individual and group update from  
the BRH EDU, July 2013

# Outcome Measures for now:

## Cognitive Remediation and Emotion Skills Therapy (CREST)/ 'Emotions group'

- Social Anhedonia Scale (SAS)
- Toronto Alexithymia Scale (TAS)
- Motivational Ruler (*importance* and *ability* to change)

# CREST outcomes

## SAS

- Anhedonia refers to the severely limited ability to experience pleasure.
- Social Anhedonia Scale is 40-item true/false scale with higher scores indicating greater levels of social anhedonia.

Chapman, L. J., Chapman, J. P., & Raulin, M. L. (1976). Scales for physical and social anhedonia. *Journal of Abnormal Psychology*, 85, 374-382.

## TAS

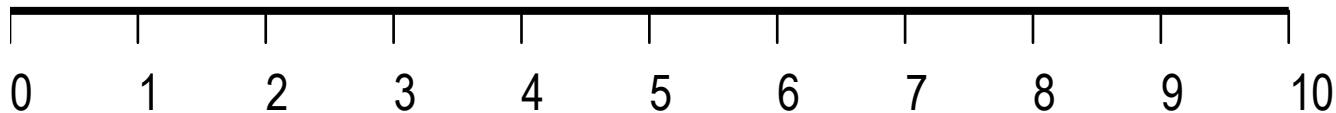
- Alexithymia refers to trouble identifying and describing emotions and tendency to minimise emotional experience/focus attention externally.
- The TAS-20 is comprised of 20 items on a 5 point likert scale.
- Total  $\leq 51$  = non-alexithymia,  
     $\geq 61$  = alexithymia  
    52-60 = possible alexithymia.

Bagby, R. M., Parker, J. D. A. & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale-I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, 38, 23-32

# Motivational Ruler

The MR takes the form of a Likert scale ranging from 1 – 10 and asks about the person's perception of importance to change and ability to change.

1. **Importance to change.** Ask yourself the following question: How important is it for you to change? What are your desires, reasons and needs for change? What score would you give yourself out of 10?



Miller, W.R. & Rollnick, S. (2002). *Motivational Interviewing: Preparing people for change* (2<sup>nd</sup> ed). New York: The Guilford Press.

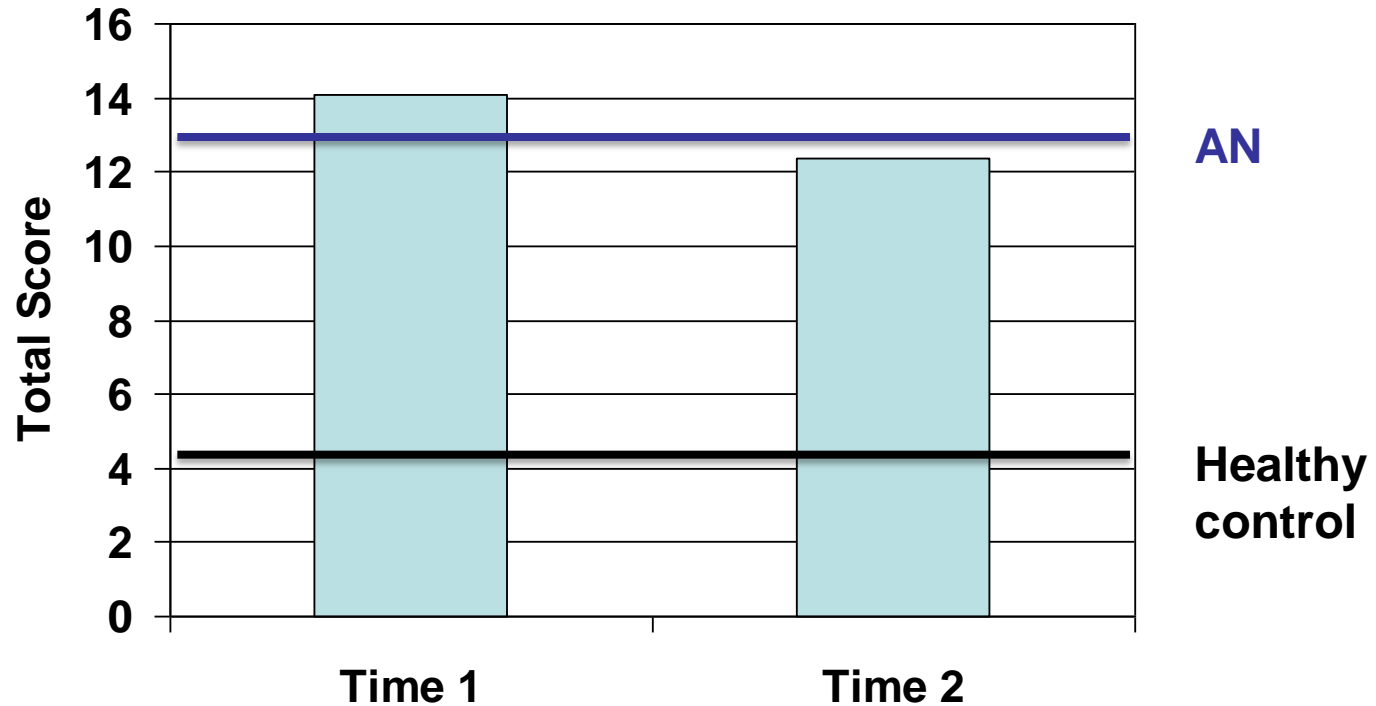
# Individual CREST

Self report questionnaires  
measuring the outcomes



# Social Anhedonia Scale (SAS)

n=23

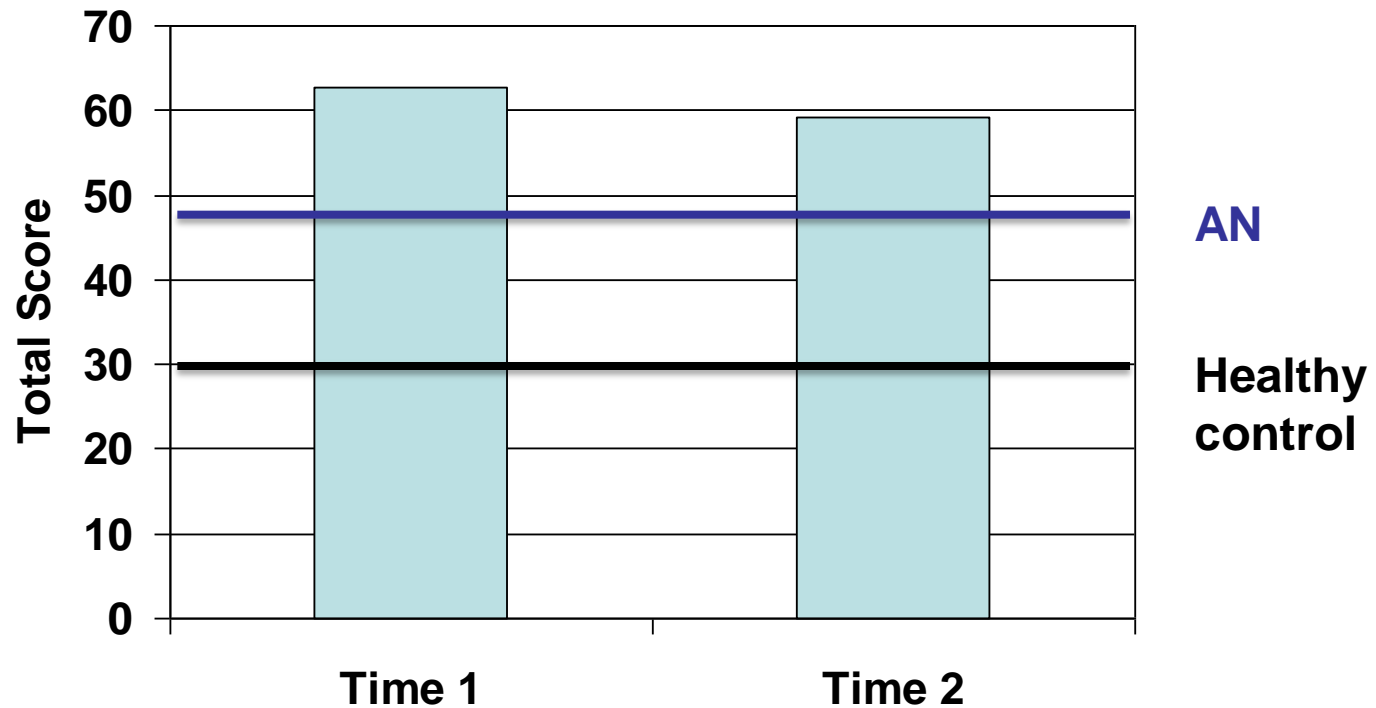


	mean	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	14.1	6.9	1.24	.23	.39
T2	12.3	7.4			

\*normative data from Tchanturia et al. (2012)

# Toronto Alexithymia Scale (TAS)

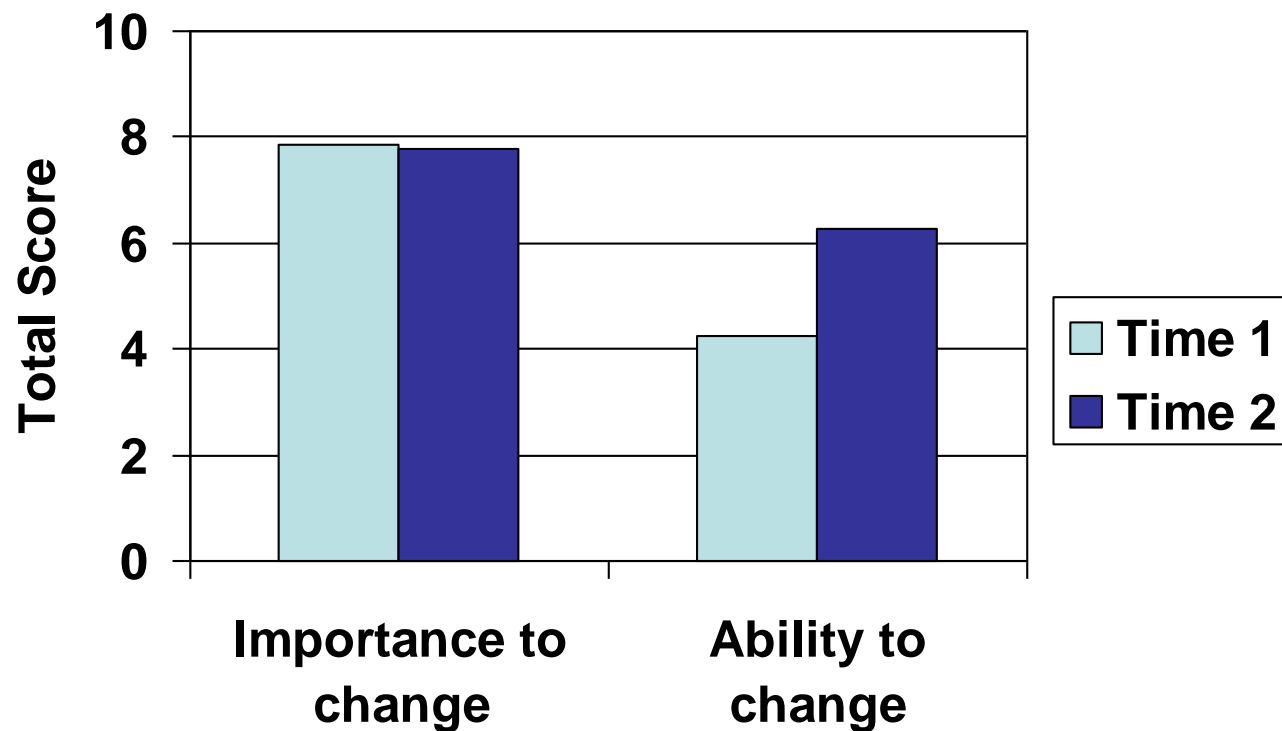
n=23



	mean	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	62.8	10	1.55	.14	.49
T2	59.2	10.17			

\*normative data from Tchanturia et al. (2012)

# Motivational Ruler (MR)



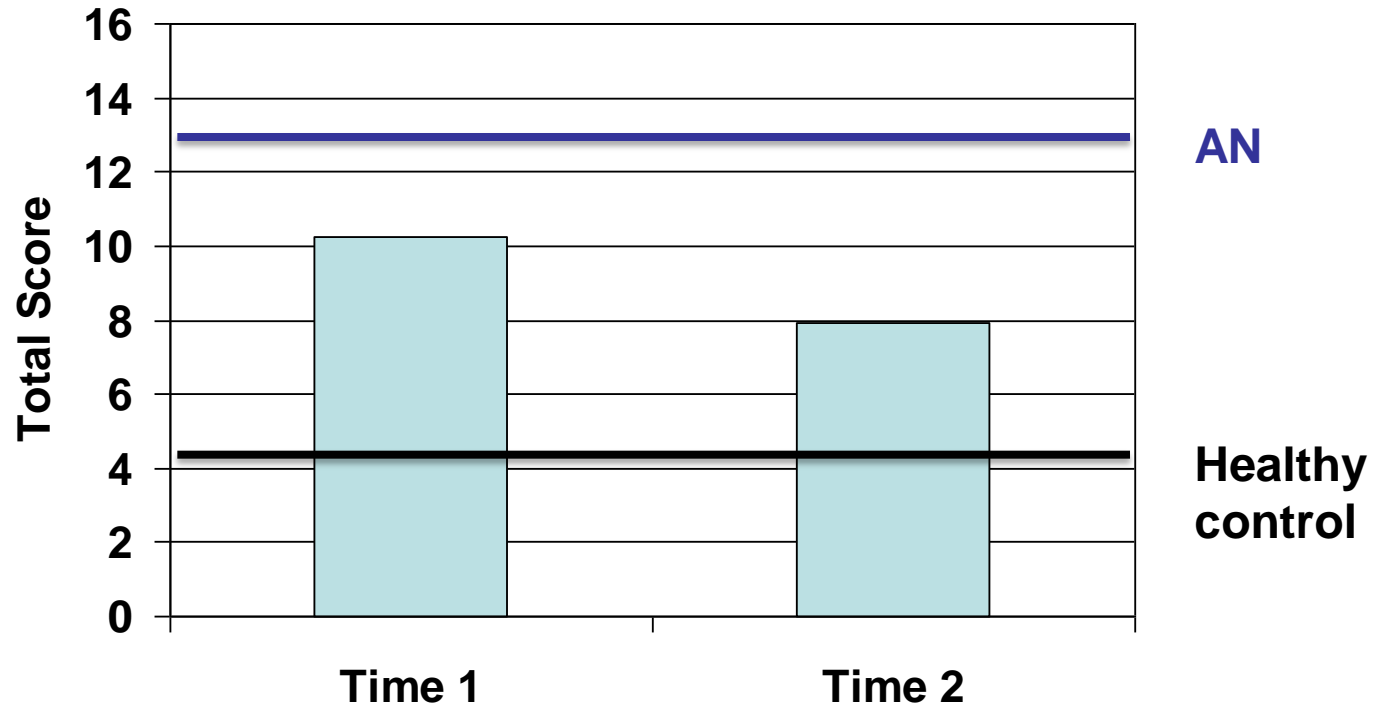
<b>I</b>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<b>A</b>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	7.85	2.8	.18	.86	.06		4.26	2.39	4.12	.001	1.41
T2	7.76	2.44					6.26	2.21			

# CREST Group

Some self report outcome data

# Social Anhedonia Scale (SAS)

n=29

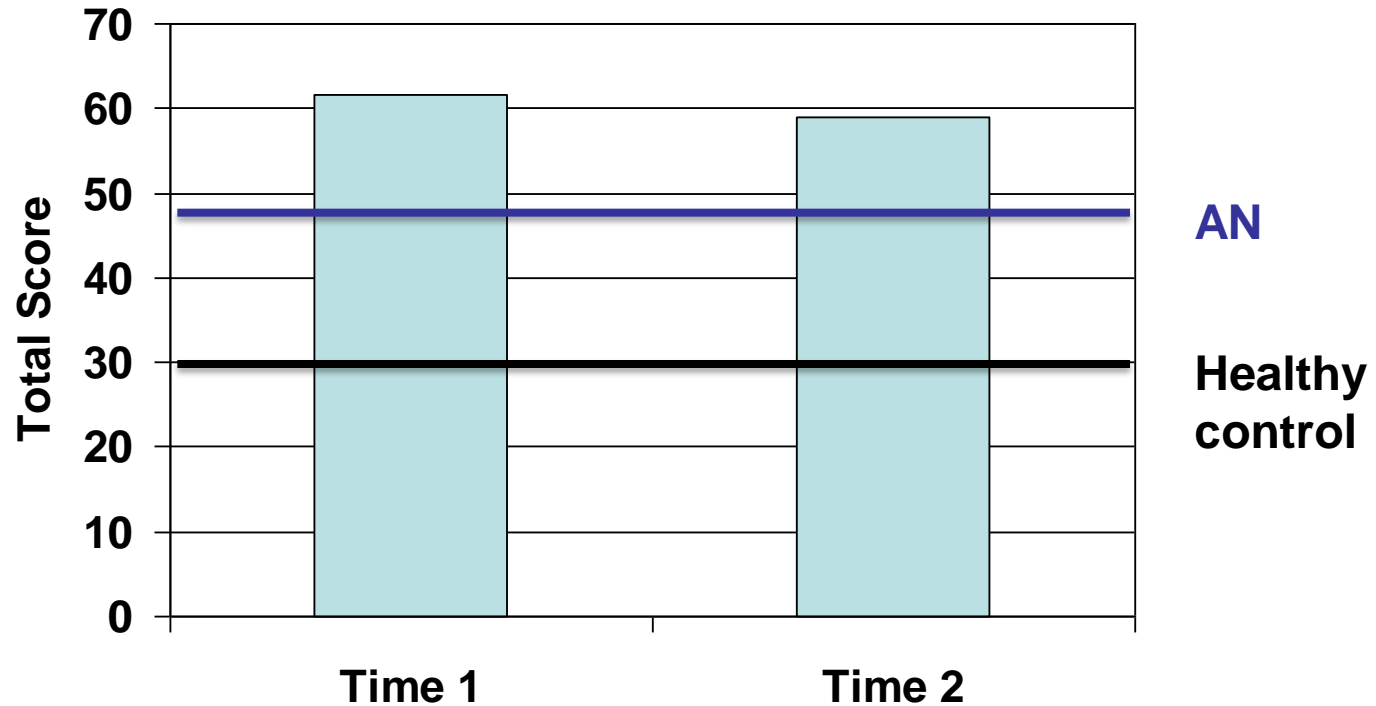


	mean	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	10.2	8.6	1.42	.17	.37
T2	7.9	7.8			

\*normative data from Tchanturia et al. (2012)

# Toronto Alexithymia Scale (TAS)

n=23

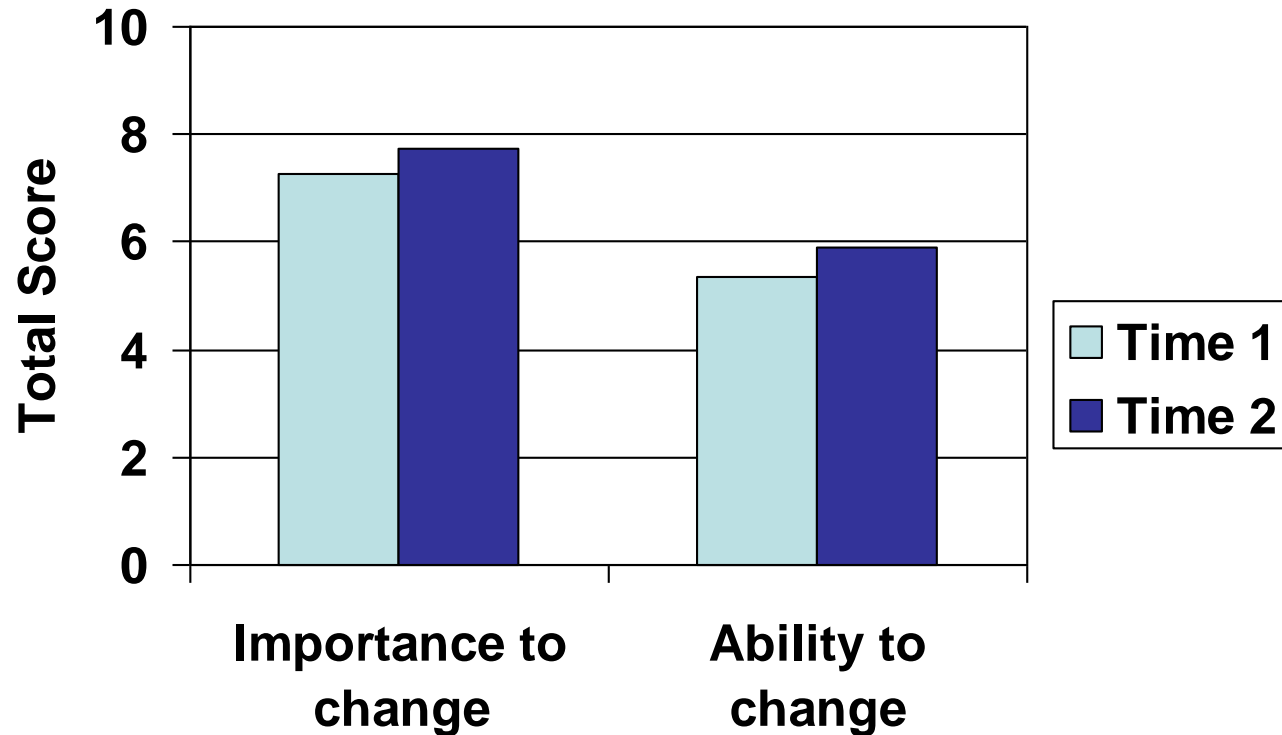


	mean	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	61.6	14.3	1.48	.15	.44
T2	59	11.8			

\*normative data from Tchanturia et al. (2012)

# Motivational Ruler (MR)

n=20



<b>I</b>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>	<b>A</b>	M	SD	<i>t</i>	<i>p</i>	<i>d</i>
T1	7.25	2.73	-1.08	.29	.34		5.35	2.6	-1.3	.21	.41
T2	7.73	2.01					5.9	3.02			

# References

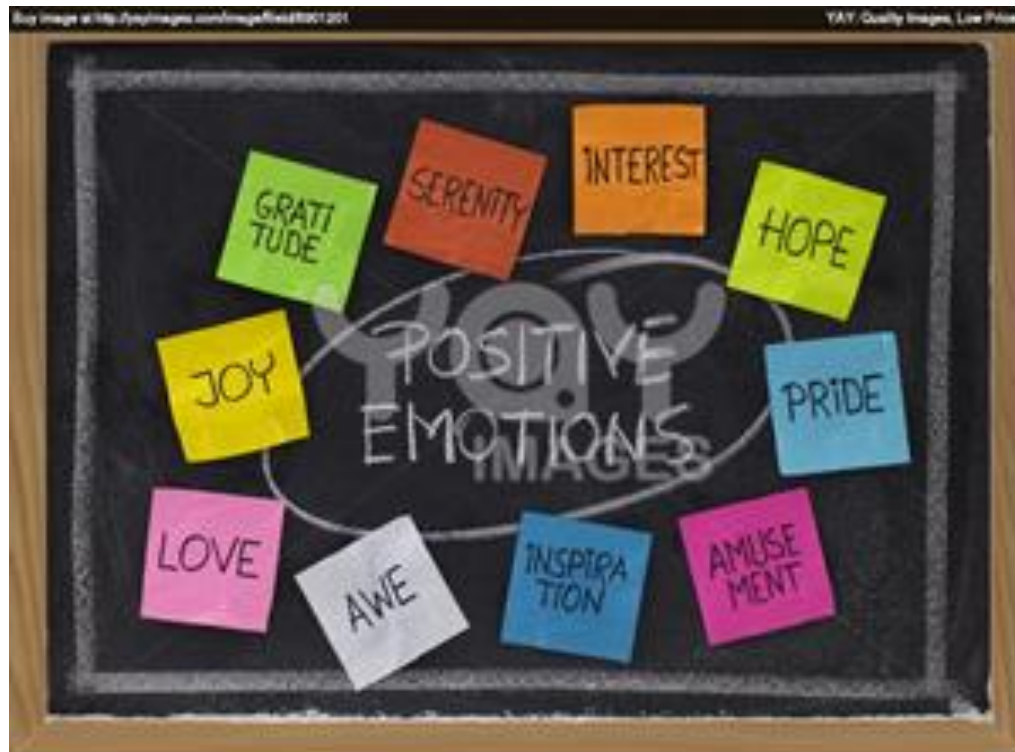
- **Davies H, Fox J, Naumann U, Treasure J, Schmidt U, Tchanturia K.** (2012) Cognitive remediation and emotion skills training (CREST) for anorexia nervosa: an observational study using neuropsychological outcomes. *European Eating Disorder Review*. 20 (3) 211-7.doi: 10.1002/erv.2170
- **Money C, Genders B, Treasure J, Schmidt, Tchanturia K.** (2011) A brief emotion focused intervention for inpatients with anorexia nervosa: A qualitative study. *Journal of Health Psychology*. 16(6):947-58 PMID: 21441359
- **Money C, Davies H, Tchanturia K.** (2011) A case study introducing Cognitive Remediation & Emotion Skills Training (CREST) for Anorexia Nervosa inpatient care. *Clinical Case Studies*. 10(2) 110-121
- **Kyriacou O, Easter A, Tchanturia K** (2009) Comparing views of patients, parents and clinicians on emotions in anorexia: A qualitative study. *Journal of Health Psychology*. 14(7) 843–854
- **Tchanturia, K., Davies, H., Harrison, A., Fox, J. R., Treasure, J., & Schmidt, U.** (2012). Altered social hedonic processing in eating disorders. *International Journal of Eating Disorders*, 45(8), 962-969.



# Therapists reflections not formally studied but assessed

- Normalising emotions as a daily experience
- Teaching skills to utilise emotions in positive way – emotions are a message you can either listen to or ignore
- Structure and materials are helpful
- Psychoeducation emphasis is a useful place to start talking about emotions

Revised CREST has more focus on  
psych education materials from  
Positive psychology, more  
homework, more specific exercises



Examples of new hand outs  
and home work



# *Simple Pleasures*

Hugs

Smiles

Laughter

Tears

Crafts

Personal treats

(facial/massage)

Watching old films

Books

Writing a wish list for  
travels

Spicy food

Walks in the forest,  
around the lake, river or  
on the beach

Losing myself in London

Doing or watching ballet

Being with positive people

Candles

Visiting museums

Looking at photos

Standing on the grass with bare  
feet

Reading/doing something in your  
own language

Bath

Someone liking our work and  
wanting it

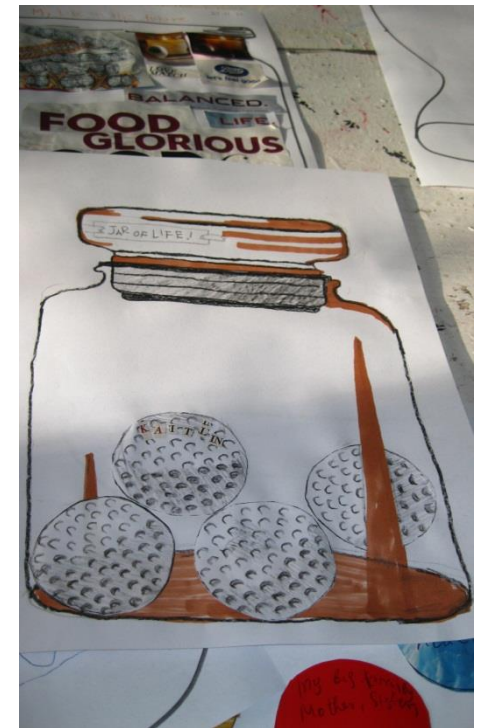
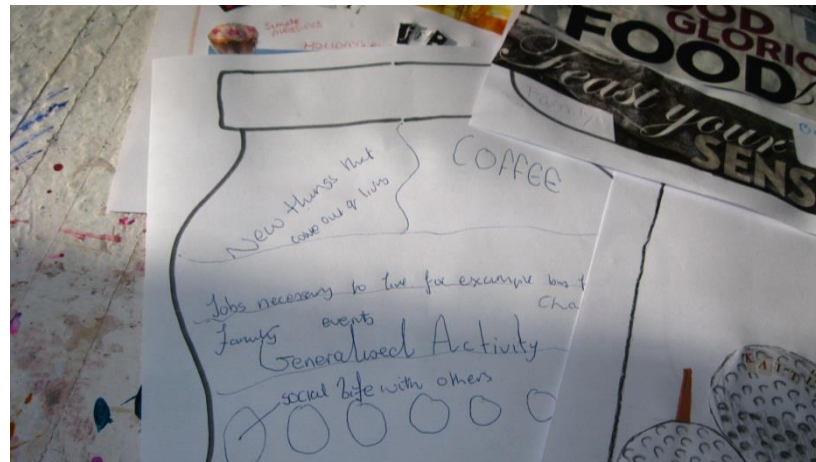
Conversation

Writing a diary



# Meaningful aspects of life

## one of the exercise example:



# Revised CREST manual (Tchanturia et al 2013) will have the following themes

- Thinking about thinking (one session of CRT)
- Thinking about feeling (labelling emotions, body and emotions)
- Recognising emotions –focus on positives
- Regulating emotions
- Expressing emotions and communicating positively
- Recognising and interpreting other peoples emotions
- Case studies and toolkit  
(simple pleasures, mottos, body language websites, positive psychology websites)

# Group format development

- Short format 5 sessions were developed
  - 1) The nature and function of emotions, focus on positive emotions why they are so important? – This is a psycho-educational session.
  - 2) How do we identify emotions – This session explores a number of strategies and clues to help correctly label emotions.
  - 3) Emotion expression versus emotion suppression – This session looks at the advantages and disadvantages of emotion suppression and expression. Session then introduces alternative ways to manage emotions.
  - 4) Emotions and needs – This session highlights emotions as being important signals, which communicate needs and the importance of listening to and responding to these needs.
  - 5) Recognising positive emotions and expressing them – This session focuses on encouraging patients to acknowledge positive emotions in themselves and others, to express needs and feelings in a positive way.

\*inter-session work to translate into every day life, including positive psychology exercises every week



# Acknowledgements

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The logo for the Ariadne programme, featuring a large, stylized red letter 'A' followed by the word 'riadne' in a red, cursive script font.