Understanding and Treating Panic Disorder in Adolescence

Polly Waite
Associate Professor of Clinical Psychology

7th March 2023

TOPIC

The Oxford Psychological Interventions for Children and adolescents Research Group

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OUR RESEARCH THEMES

- Behavioural Neuroscience
- Developmental Psychology
- Perception and Cognition
- Psychological and Brain Health
- Social & Affective Psychology

We have produced some advice for supporting children and young people with worries about COVID—19. To access the document please go here

If your child or teen has had an accident or other trauma and you are wondering how to help them please visit Child Trauma Recovery website for advice.

TOPIC Research Group is focused on improving access and effectiveness of psychological interventions for the prevention and treatment of common mental health problems (particularly but not exclusively anxiety disorders) in children and young people. We seek to do this by improving understanding of (i) the experiences of children, young people and their families, (ii) how

OUR TEAM

Cathy Creswell

Professor of Developmental Clinical Psychology

Polly Waite

Associate Professor

Tessa Reardon

Postdoctoral Researcher

Emily Lloyd

RESEARCH TOPICS

- Academic Development & Learning Difficulties
- Anxiety
- Artificial Intelligence
- Attention
- Autism Spectrum
- Brain Damage, Injury & Brain Disorders
- Brain Imaging
- Brain Systems
- Childhood & Adolescence (3-18 years)
- Choice & Decision Making
- Clinical Practice
- Cognition & Information Processing
- Consciousness
- Consumer Psychology

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‘Mae’ (age 15)

- Current difficulties began around eight months ago when she had to do a presentation at school. That morning, she became really anxious about it and experienced a sudden surge of intense fear that came from nowhere and within a few minutes, it reached a point where she felt really sick, dizzy, shaky, short of breath and her heart was pounding.
- Since then, she has experienced frequent similar attacks of anxiety that sometimes come out of the blue - her main worries are that she might collapse, be sick, be seriously ill or even die.
- This happens most weeks and as a result, she worries a lot about them happening again and that other people might think she was weird. This is causing her a lot of upset.
- There are days when she might not go into school or goes in late. She is also now finding it difficult to use the school bus or to go into town with her friends.

DSM-5 Diagnosis of Panic Disorder

A. Recurrent unexpected panic attacks

Abrupt surge of intense fear or discomfort that reaches a peak within minutes

B. At least one panic attack followed by:

Persistent concern about further panic attacks
(or)
Significant change in behaviour

C. Not due to substance or medical condition

D. Not due to another mental health disorder

Panic Disorder in Adolescents

~ 80,000 adolescents in UK

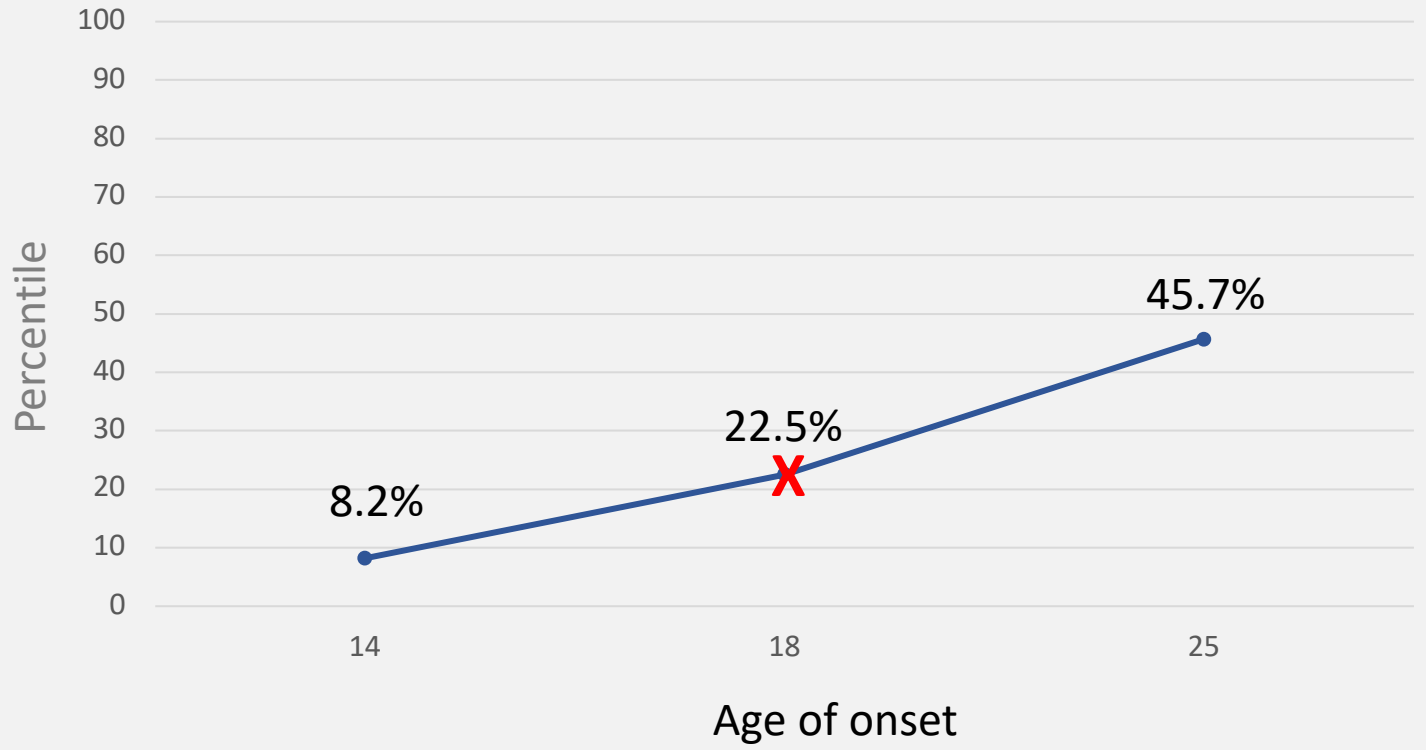
Sadler, K., Vizard, T., Ford, T., Marchesell, F., Pearce, N., Mandalia, D., ... & Goodman, R. (2018). Mental Health of Children and Young People in England, 2017, NHS Digital.

Panic Disorder Age of Onset

22 samples

22.5% of panic disorder cases occurred by age of 18

Peak age of onset 15.5 years



Solmi, M., Radua, J., Olivola, M., Croce, E., Soardo, L., Salazar de Pablo, G., ... & Fusar-Poli, P. (2022). Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. *Molecular Psychiatry*, 1-15.

Panic Disorder in Adolescents

NICE guidance

Evidence-based recommendations

Generalised anxiety disorder and panic disorder in adults: management

Clinical guideline

Published: 26 January 2011

nice.org.uk/guidance/cg113

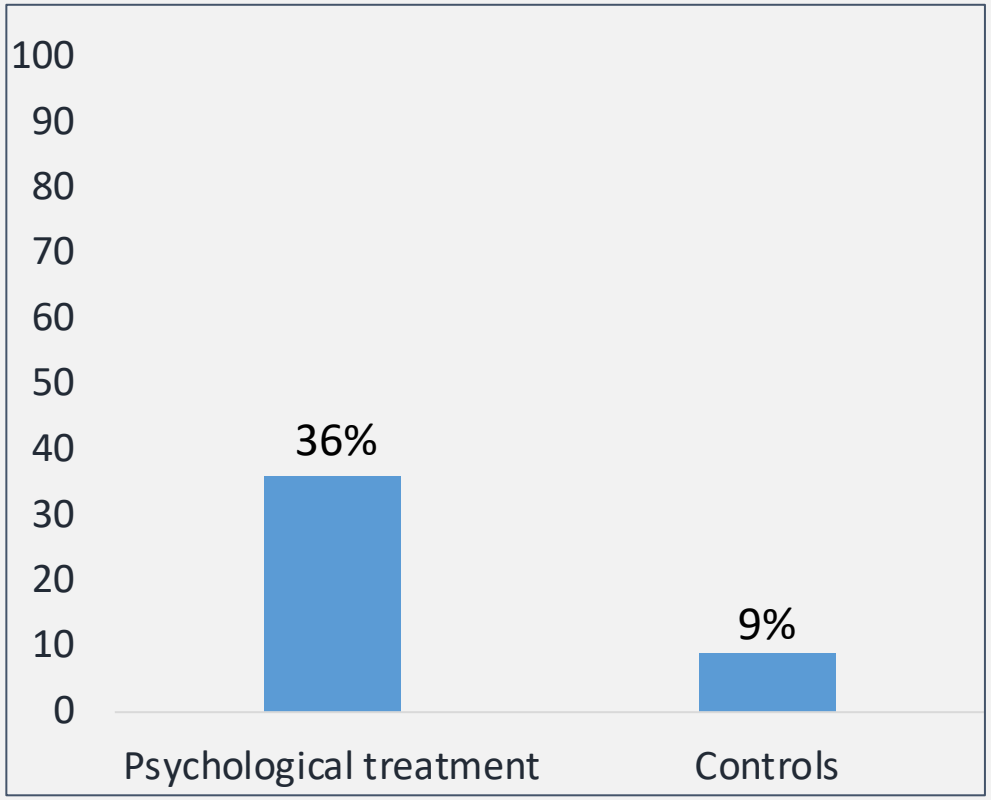
No guidance for children/adolescents

Psychological Treatments For Adolescent Anxiety Disorders (including Panic Disorder)

k = 16
Diagnostic remission outcomes k = 9
n = 563 adolescents

Those receiving treatment were significantly more likely to be in remission from the primary anxiety disorder than controls

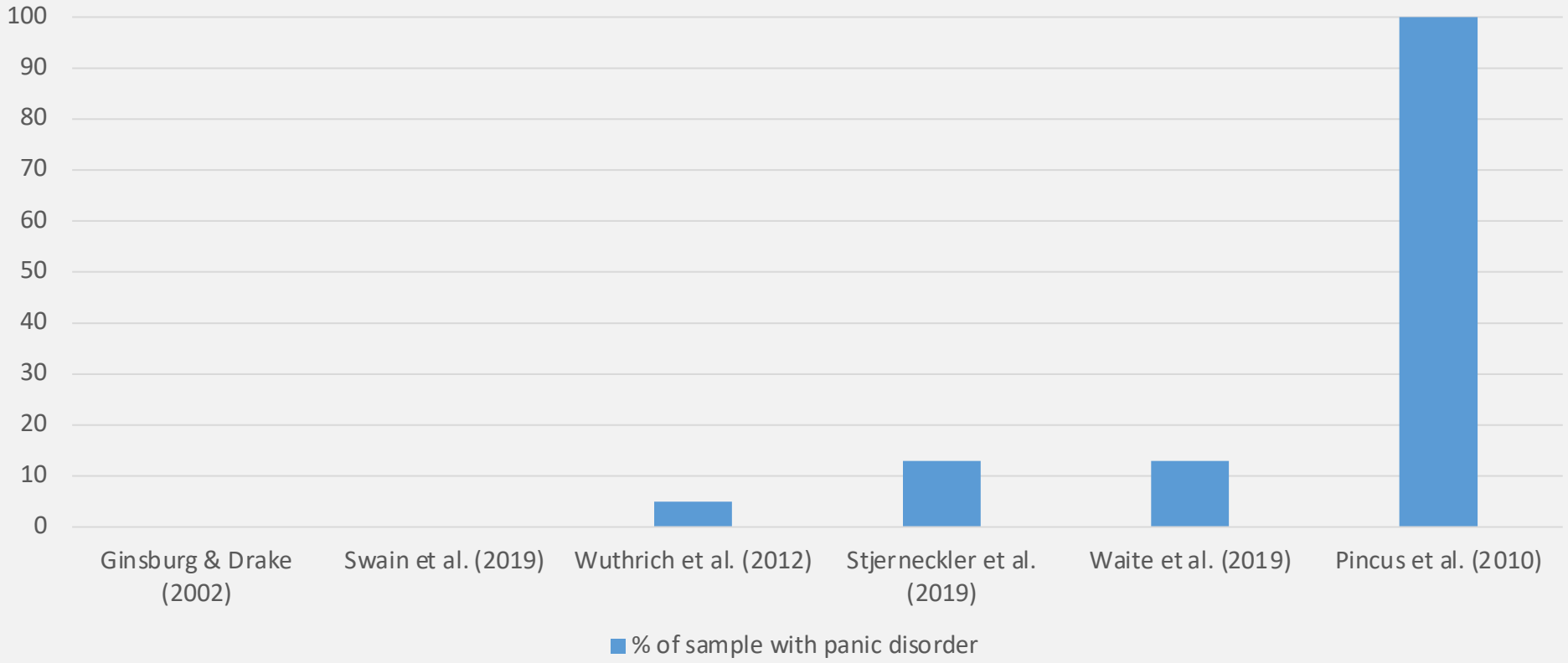
RR = 7.94, 95% CI 3.19–12.7



Baker, H. J., Lawrence, P. J., Karalus, J., Creswell, C., & Waite, P. (2021). The effectiveness of psychological therapies for anxiety disorders in adolescents: A meta-analysis. *Clinical Child and Family Psychology Review*, 1-18.

Psychological Treatments For Adolescent Panic Disorder

k = 6 (37.5% of studies) included adolescents with panic disorder



Only one study focused on panic disorder specifically

Baker, H. J., Lawrence, P. J., Karalus, J., Creswell, C., & Waite, P. (2021). The effectiveness of psychological therapies for anxiety disorders in adolescents: A meta-analysis. *Clinical Child and Family Psychology Review*, 1-18.

Pincus, D. B., May, J. E., Whitton, S. W., Mattis, S. G., & Barlow, D. H. (2010). Cognitive-behavioral treatment of panic disorder in adolescence. *Journal of Clinical Child & Adolescent Psychology*, *39*(5), 638-649.

All participants had primary panic disorder

n=26

11 individual weekly sessions

TABLE 2

Means and Standard Deviations of Outcome Measures at Pre- and Postassessments by Treatment Condition

	Pre		*Post*		*Effect of Treatment*	
Measure	*PCT-A*[a]	*Control*[b]	*PCT-A*[a]	*Control*[b]	*F(1, 22)*	*Effect Size (Cohen's d)*
CSR	5.62 (0.65)	5.42 (1.00)	3.31 (1.60)	4.75 (1.36)	6.81**	1.09
CASI	40.57 (6.72)	36.52 (7.90)	28.62 (6.55)	32.67 (9.49)	7.90**	1.17
MASC	65.85 (16.25)	53.18 (23.77)	45.31 (22.75)	51.25 (25.77)	9.92**	1.31
CDI	15.54 (7.63)	12.05 (7.64)	8.77 (8.01)	10.80 (8.18)	4.20*	0.86

Note. Effect of treatment was estimated using analysis of covariance predicting posttreatment score with pretreatment score included as a covariate. PCT–A = Panic Control Treatment for Adolescents; CSR = Clinician Severity Rating; CASI = Childhood Anxiety Sensitivity Index; MASC = Multidimensional Anxiety Scale for Children; CDI = Children's Depression Inventory.

[a] $n = 13$.

[b] $n = 12$.

$^{*}p < .05$. $^{**}p < .01$.

Identification of Panic Disorder

Aim

- To establish what training CAMHS clinicians have received
- How they identify and treat panic disorder

Study Design

CAMHS clinicians from a range of professions (n = 427)

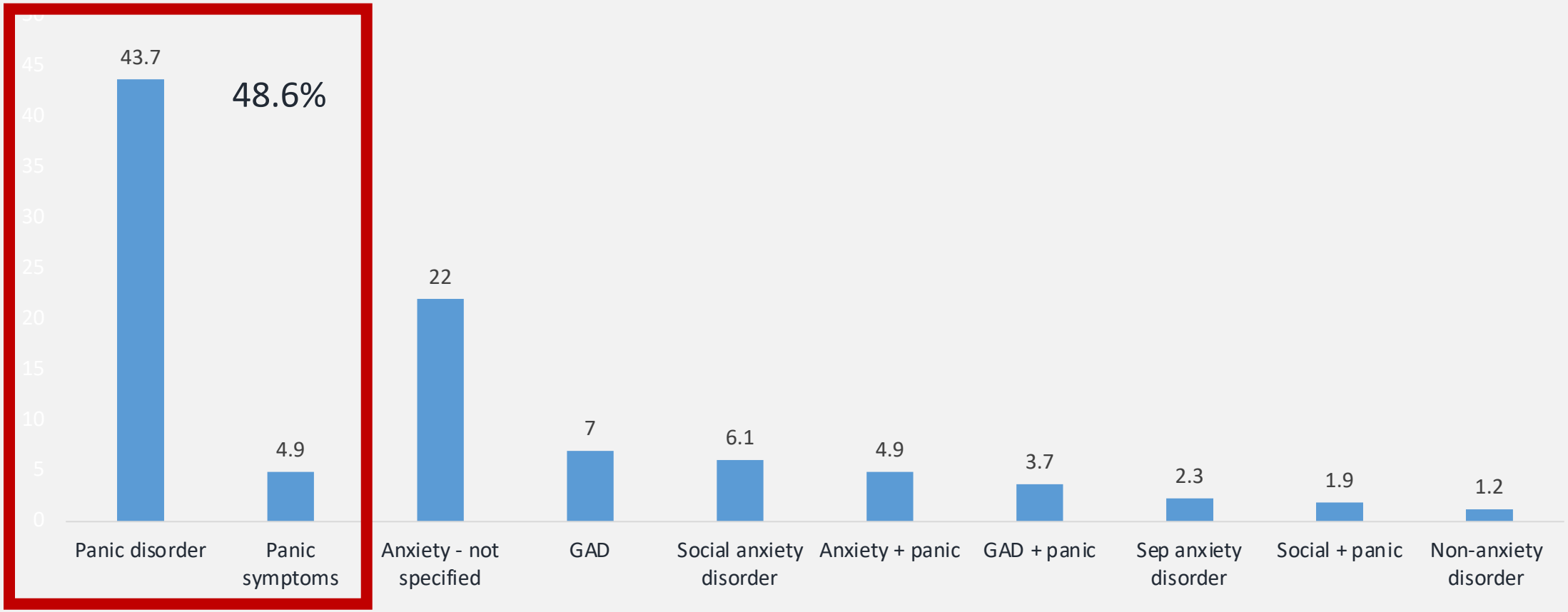
- Delivering psychological treatments to children and adolescents with anxiety disorders

Completed a cross-sectional online survey:

- Vignette describing an adolescent with panic disorder
- Identify the main diagnosis or presenting problem

Baker, H. J., & Waite, P. (2020). The identification and psychological treatment of panic disorder in adolescents: a survey of CAMHS clinicians. *Child and Adolescent Mental Health*. 25, 3, 135-142.

Panic Disorder Vignette



Baker, H. J., & Waite, P. (2020). The identification and psychological treatment of panic disorder in adolescents: a survey of CAMHS clinicians. *Child and Adolescent Mental Health*. 25, 3, 135-142.

Treatment approach for panic disorder

How would you treat young people with panic disorder?

0.9% (n = 4) of clinicians indicated they would use Pincus et al.'s treatment approach

6.6% (n = 28) suggested a transdiagnostic CBT protocol

7.5% (n = 32) identified a panic disorder-specific protocol designed for adults

85% (n = 363) did not identify a suitable protocol

Baker, H. J., & Waite, P. (2020). The identification and psychological treatment of panic disorder in adolescents: a survey of CAMHS clinicians. *Child and Adolescent Mental Health*. 25, 3, 135-142.

Cognitive Model of Panic Disorder (adult)

Behav. Res. Ther. Vol. 24, No. 4, pp. 461–470, 1986
Printed in Great Britain

A COGNITIVE APPROACH TO PANIC

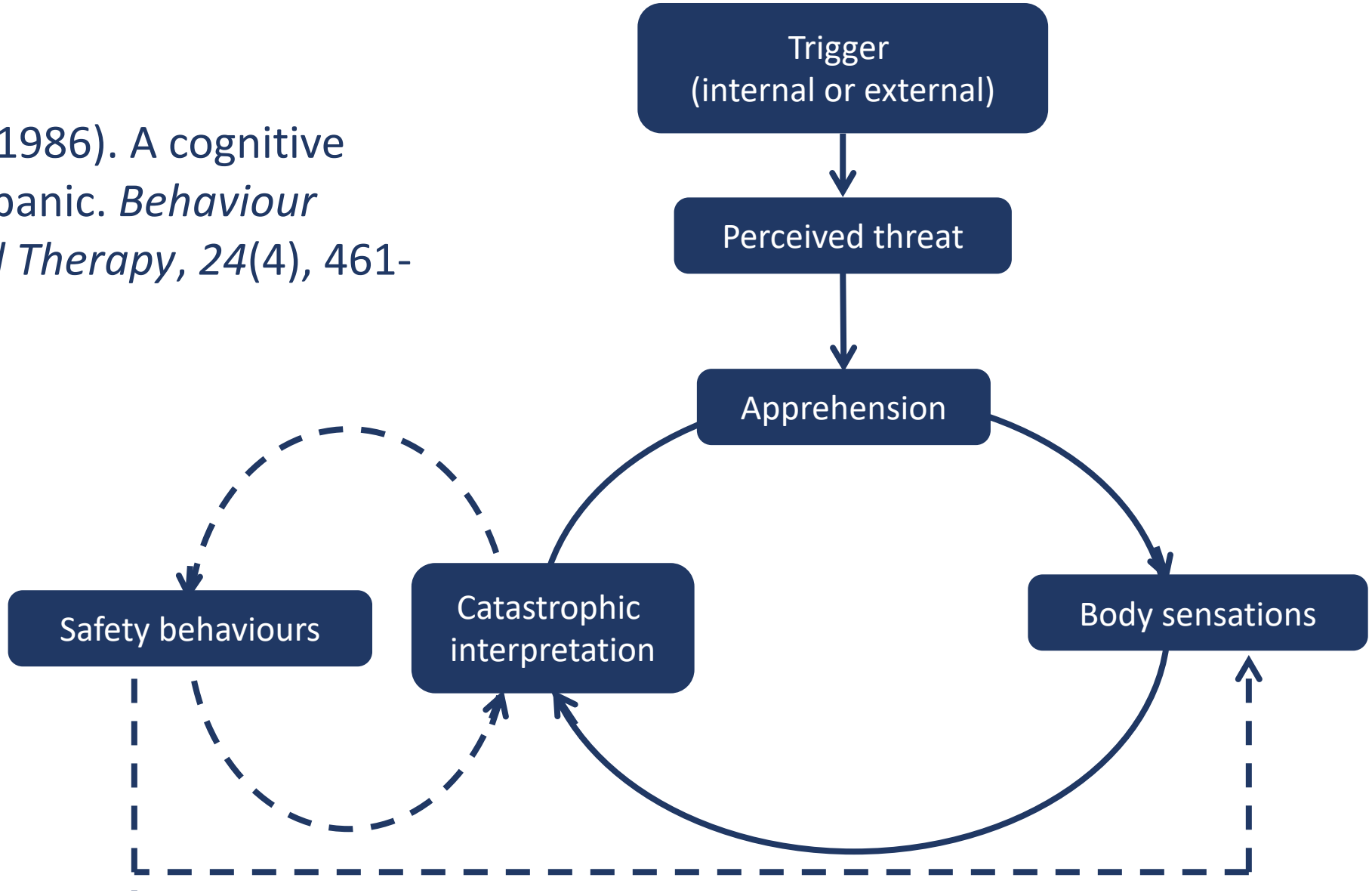
DAVID M. CLARK
Department of Psychiatry, University of Oxford, Warneford Hospital, Oxford OX3 7JX, England

(*Received 3 December 1985*)

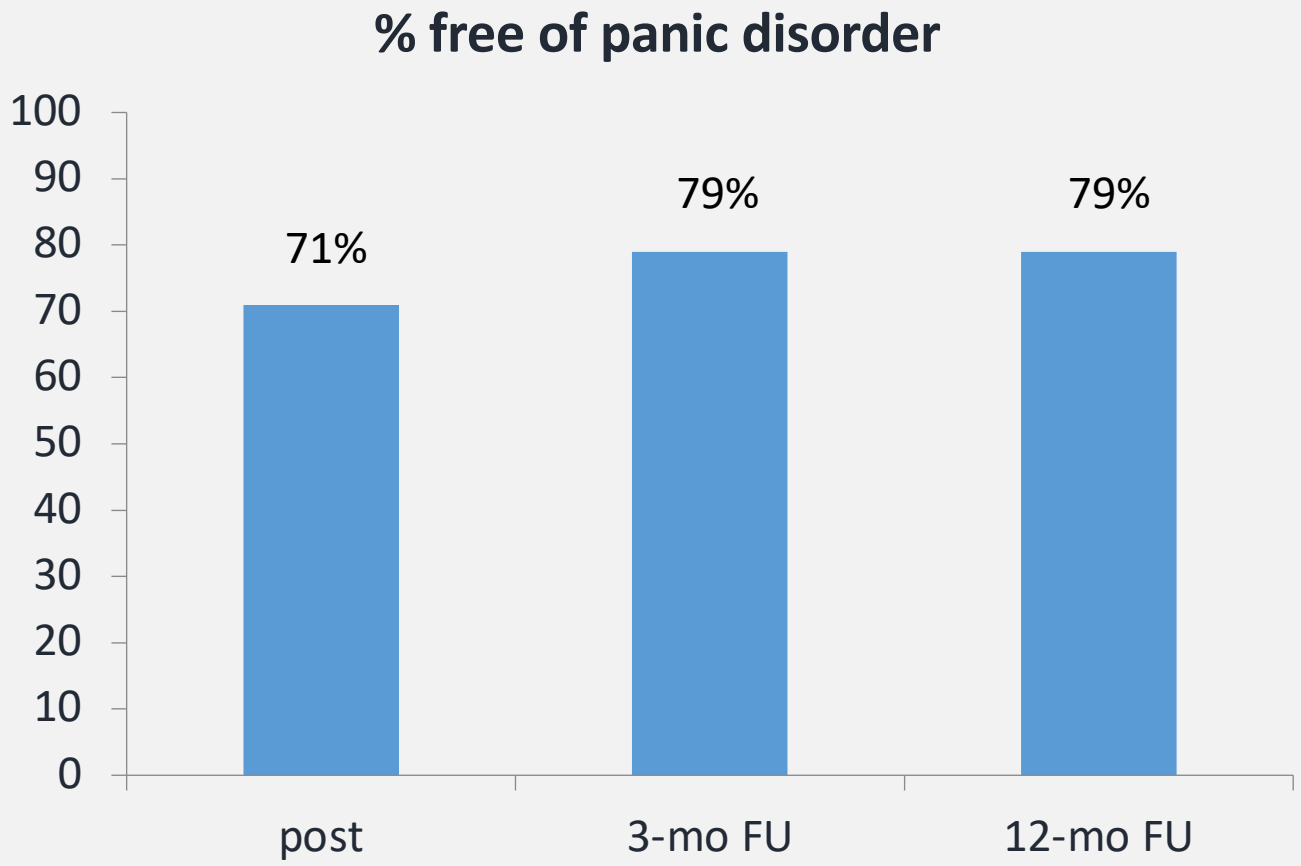
Summary—A cognitive model of panic is described. Within this model panic attacks are said to result from the catastrophic misinterpretation of certain bodily sensations. The sensations which are misinterpreted are mainly those involved in normal anxiety responses (e.g. palpitations, breathlessness, dizziness etc.) but also include some other sensations. The catastrophic misinterpretation involves perceiving these sensations as much more dangerous than they really are (e.g. perceiving palpitations as evidence of an impending heart attack). A review of the literature indicates that the proposed model is consistent with the major features of panic. In particular, it is consistent with the nature of the cognitive disturbance in panic patients, the perceived sequence of events in an attack, the occurrence of 'spontaneous' attacks, the role of hyperventilation in attacks, the effects of sodium lactate and the literature on psychological and pharmacological treatments. Finally, a series of direct tests of the model are proposed.

Cognitive model of panic disorder

Clark, D. M. (1986). A cognitive approach to panic. *Behaviour Research and Therapy*, *24*(4), 461-470.



Brief Treatment Of Panic Disorder (in adults)



Clark, D. M., Salkovskis, P. M., Hackmann, A., Wells, A., Ludgate, J., & Gelder, M. (1999). Brief cognitive therapy for panic disorder: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *67*(4), 583.

The Qualitative Experience of Panic Attacks and Panic Disorder in Adolescents

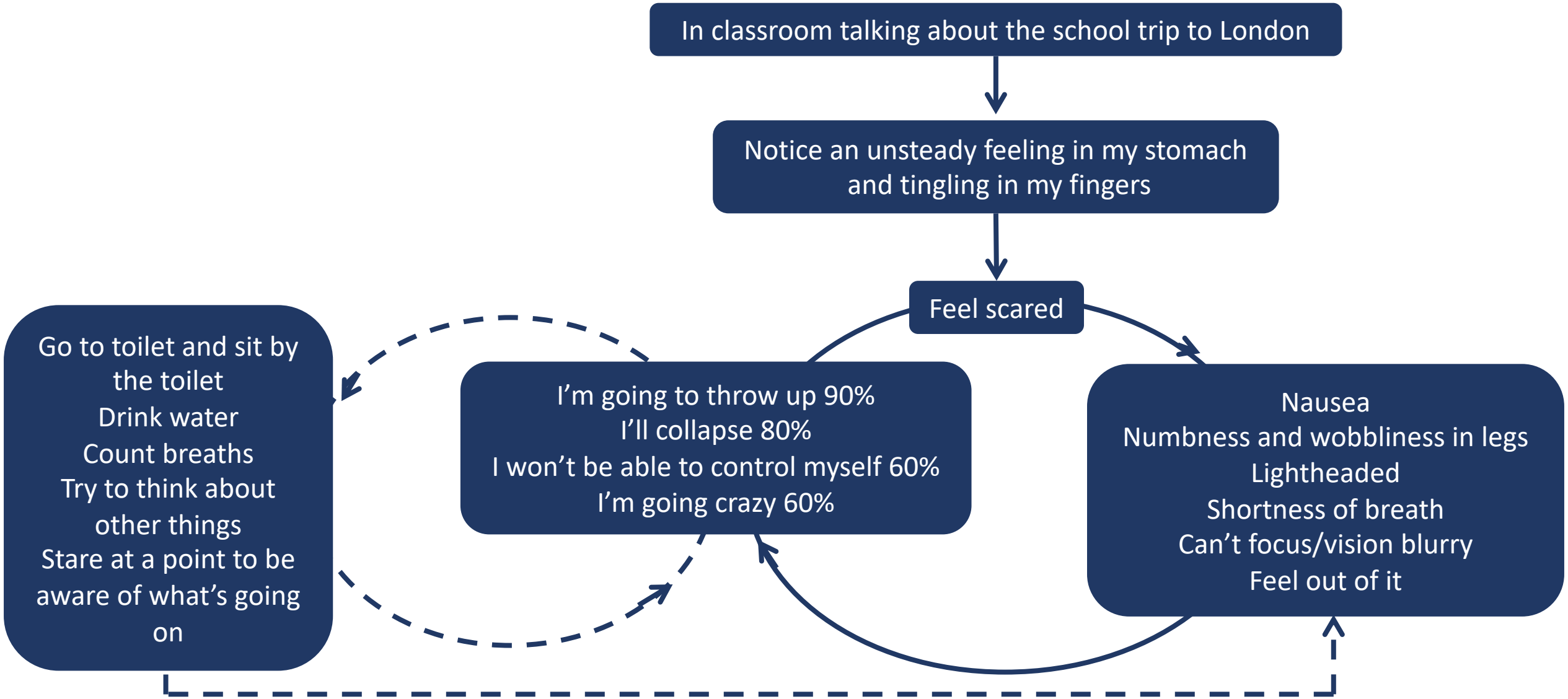
- Panic attacks were experienced as intense - 'malevolent tsunami'
- Mental images enhanced the intensity of panic
- Feeling out of control, unable to think and fearing losing control of one's mind
- Disconnect in feeling the panic attack would never end versus knowing from experience that it would
- Feeling embarrassment and shame, cut-off and isolated from others

Hewitt, O. M., Tomlin, A., & Waite, P. (2021). The experience of panic attacks in adolescents: an interpretative phenomenological analysis study. *Emotional and Behavioural Difficulties*, *26*(3), 240-253.

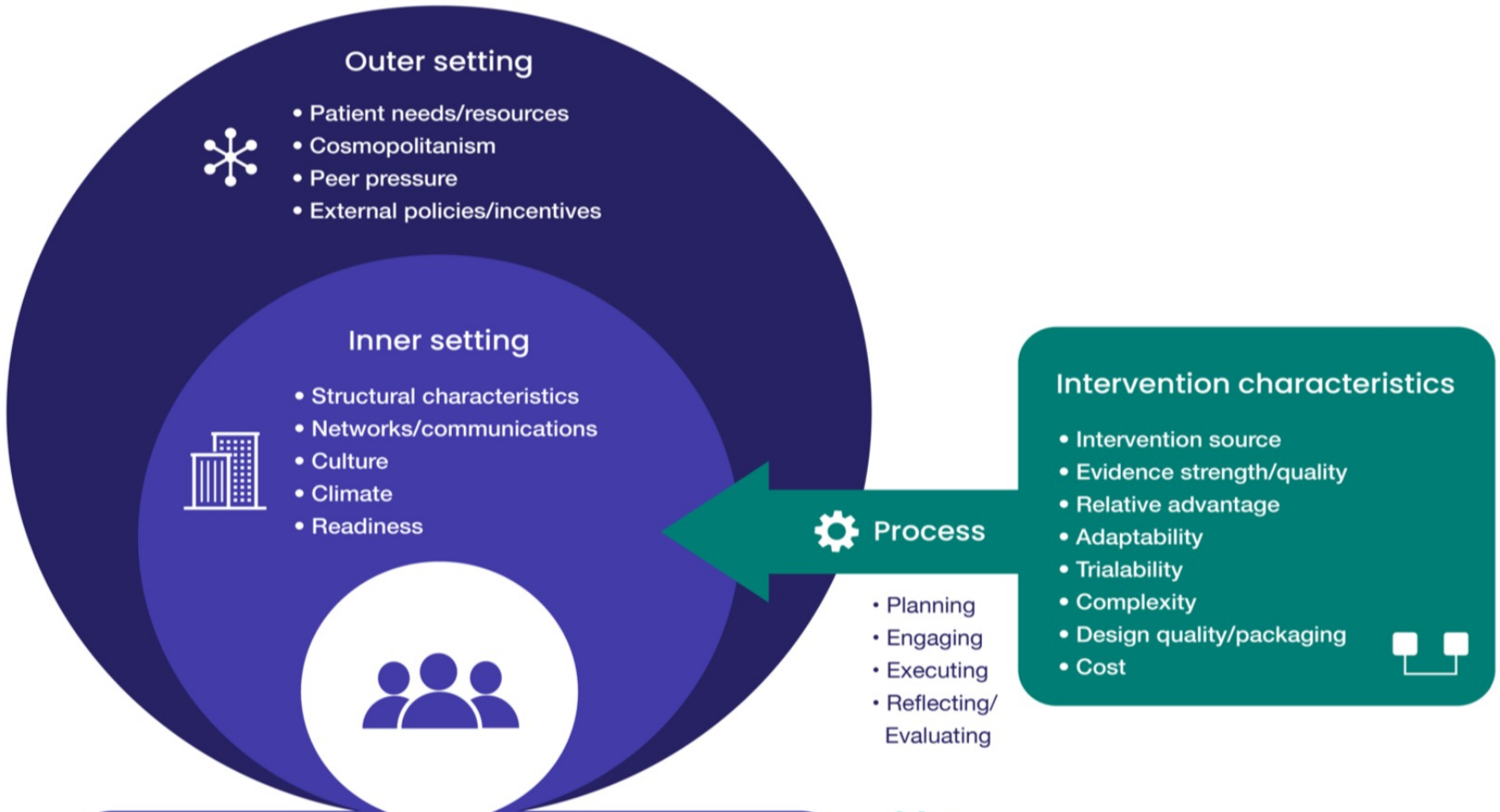
- Panic disorder is extremely overwhelming and unpleasant, with debilitating feelings of drowning in sensations
- Experiences largely fit with Clark's (1986) cognitive model of panic (in adults)
- Social worries, feeling broadly misunderstood, and unhelpful responses from others connected to a negative self-concept
- Negative social interactions with teachers and peers in the school environment are damaging

Baker, H. J., Hollywood, A., & Waite, P. (2022). Adolescents' lived experience of panic disorder: an interpretative phenomenological analysis. *BMC Psychology*, *10*(1), 1-13.

Mae's panic attack



Consolidated Framework for Implementation Research (CFIR)



The Center for Implementation

Figure adapted by The Center for Implementation

Source: Damschroder, L.J., Aron, D.C., Keith, R.E. *et al*. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Sci* **4**, 50 (2009). http://doi.org/10.1186/17485908-4-50

Outer Setting

‘Impossible situation’ as child me referrals rise above 1m

‘Pressure on services continues to rachet up’ as staff struggle to cop needing support

‘Pressure on services continues to rachet up’ as staff strugg needing support

By Laura Donnelly, HEALTH EDITOR

15 March 2022 • 6:00am

More than one million referrals of children for specialist me official figures show, as the Royal College of Psychiatrists wa it is “becoming an impossible situation to manage”

The Telegraph

INDEPENDENT

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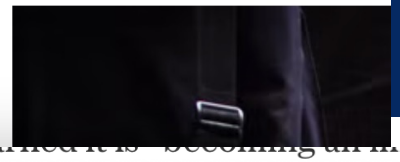
News > Health

Number of children needing help for serious mental health problems soars

NHS data shows rise to more than a million referrals last year

Jane Kirby • Tuesday 03 Januar



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Access to NHS mental health for children remains a ‘postcode lottery’

Covid pandemic has seen referrals in England drop as more children than ever are struggling, says report

Coronavirus - latest updates

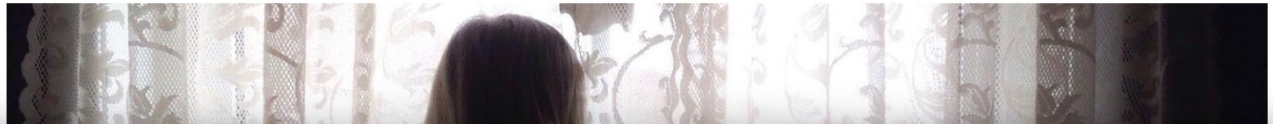
See all our coronavirus coverage

n’s commissioner report says some areas spent as little as £16 per child and others as 165 on child and adolescent mental health. (Model posed photo) Photograph: Jon /NSPCC/PA

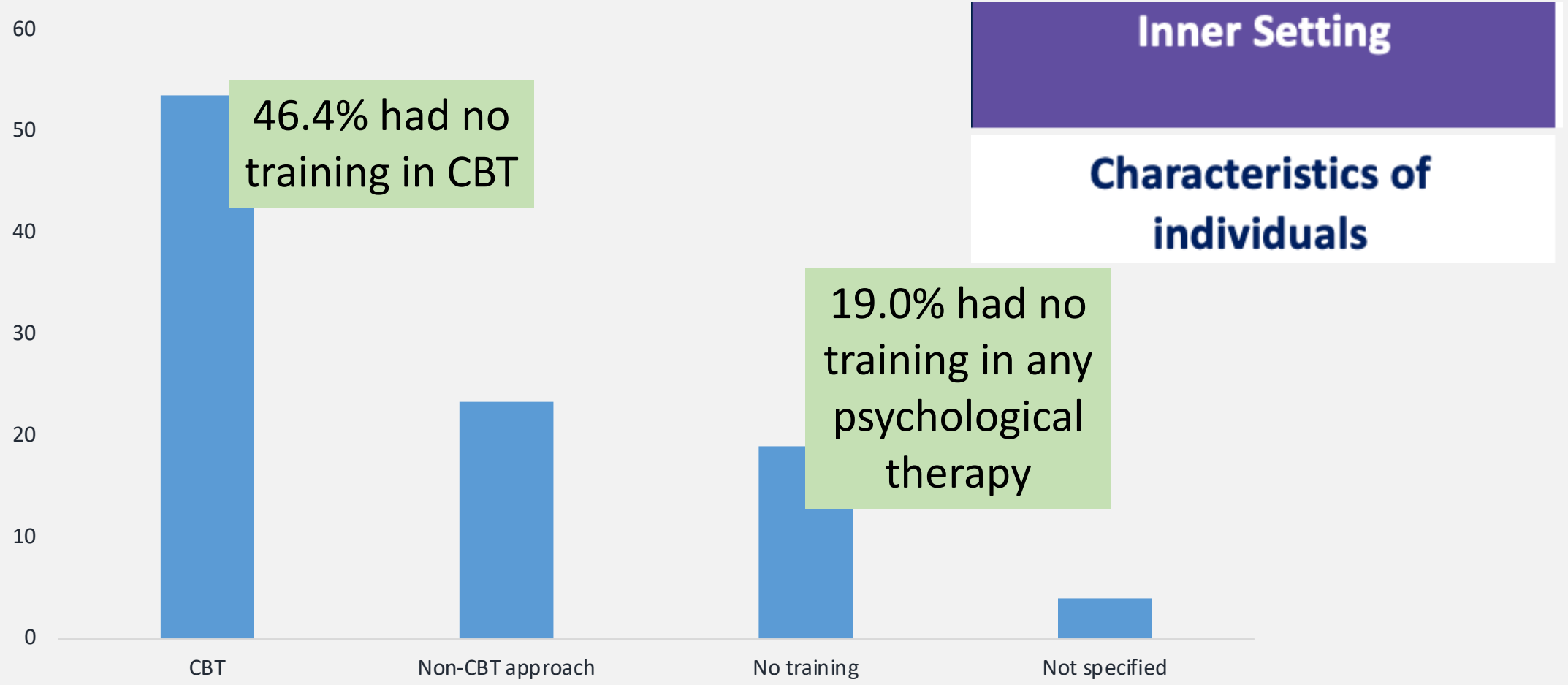
n’s access to specialist NHS mental health services in England “a postcode lottery”, with huge differences in spending and referrals ing on where families happen to live, according to a report

HEALTH

Parents go private to get children mental health help



CAMHS Clinicians' Therapy Training



Inner Setting

Characteristics of individuals

Baker, H. J., & Waite, P. (2020). The identification and psychological treatment of panic disorder in adolescents: a survey of CAMHS clinicians. *Child and Adolescent Mental Health*. 25, 3, 135-142.

To Maximise Implementation

Intervention Characteristics	Outer Setting	Inner Setting	Characteristics of individuals
• Research group seen as reputable • High level of evidence strength and quality • Relative advantage/cost • Able to be trialled/piloted • Not be too complex	• High level of need • Low level of resource • Pressure to implement change not strong • Lack of recommendations, guidance or reporting to drive innovation	• High staff turnover • Some individuals on board with innovation • Some cultures may support innovation • Likely to depend on individual relationships, leaderships, climate resources, access to learning	• Knowledge and beliefs about intervention • Self-efficacy • Motivation • Competency • Capacity

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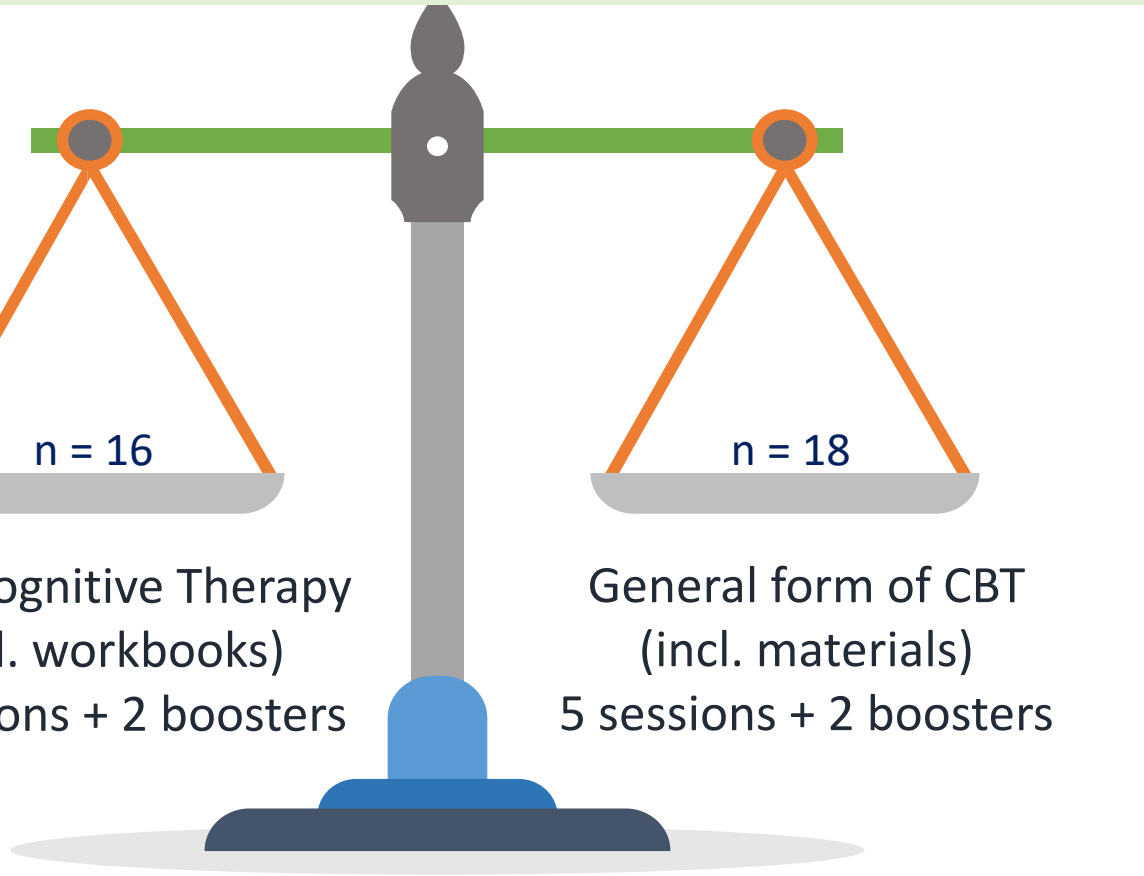
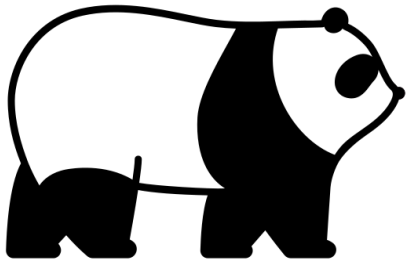
University of Reading

The PANDA (Treatment of Panic Disorder in Adolescents) Feasibility Study

- Young people aged 11-18 years
- Referred to the AnDY Research Clinic
- DSM-5 panic disorder

- 7 sessions of CBT
- Qualitative interviews

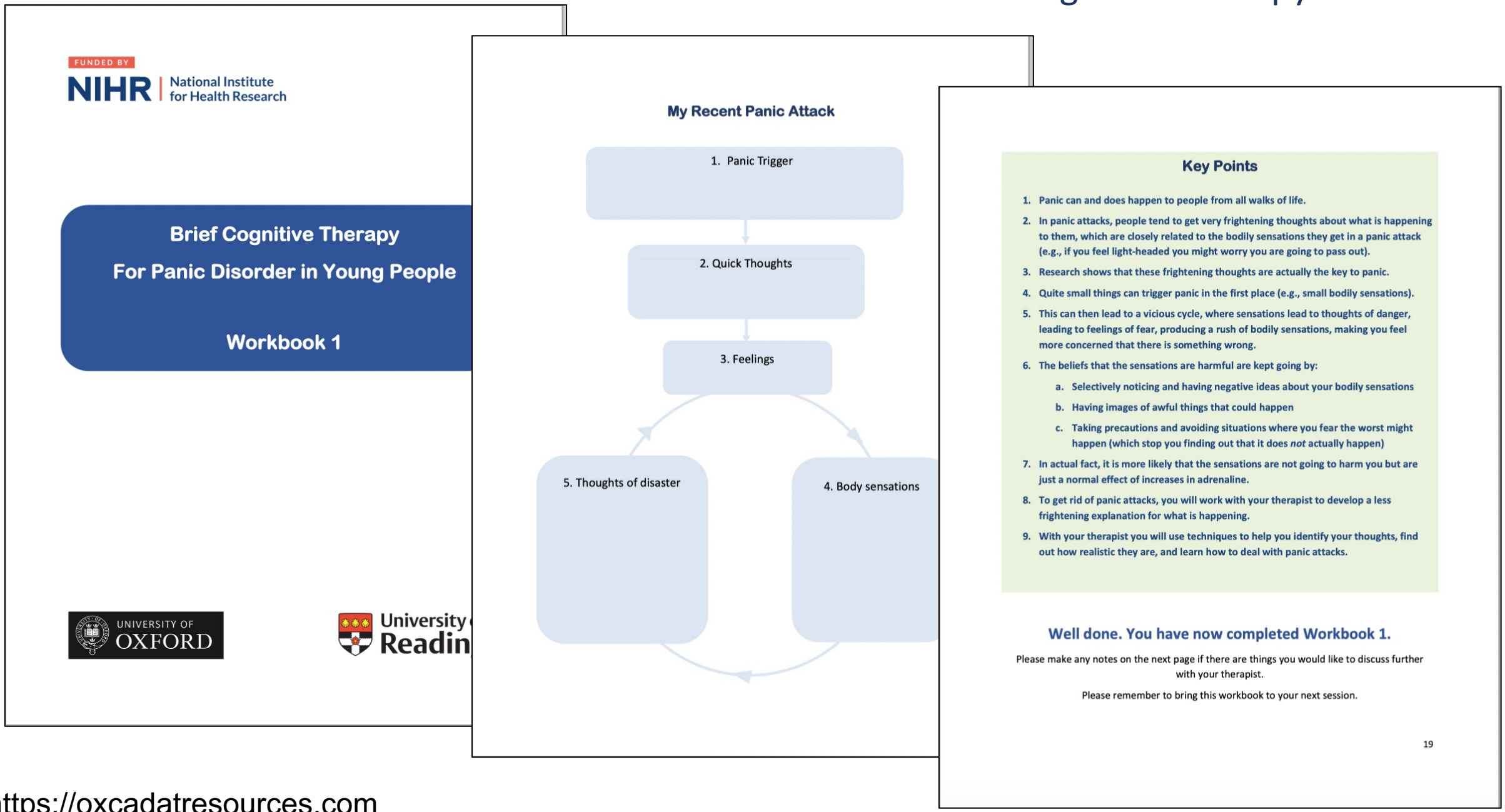




Waite, P. (2022). Protocol for a randomised controlled feasibility study examining the efficacy of brief cognitive therapy for the treatment of panic disorder in adolescents (PANDA). *Pilot and feasibility studies*, *8*(1), 1-16.

GENERAL FORM OF CBT	BRIEF COGNITIVE THERAPY
Based on what Children's Wellbeing Practitioners are trained to deliver	Adapted version of David Clark's brief cognitive therapy
As typical in routine clinical practice, clinicians use worksheets that are freely available on the Internet to support the treatment.	Four self-study modules including an individualised model, exercises and activities + additional handouts dealing with common catastrophic thoughts
Sessions involve **anxiety management techniques** (e.g., psychoeducation about anxiety, breathing retraining and relaxation), before moving on to the development of an **exposure hierarchy**, in which the young person will develop, with their therapist, an ordered list of feared stimuli according to their anticipated fear reaction.	Sessions focus on **experiential exercises in which bodily sensations and safety behaviours are systematically manipulated** to demonstrate their adverse effects and behavioural experiments in which the young person tests pre-specified negative predictions while dropping their safety behaviours
Parents/carers given psychoeducation about anxiety management and graded exposure + parents/school involved on individualised basis	Parent/carer self-study module + parents/school involved on individualised basis

Brief Cognitive Therapy Workbooks



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Brief Cognitive Therapy
For Panic Disorder in Young People

Workbook 1

UNIVERSITY OF OXFORD

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My Recent Panic Attack

1. Panic Trigger
2. Quick Thoughts
3. Feelings
4. Body sensations
5. Thoughts of disaster

Key Points

1. Panic can and does happen to people from all walks of life.
2. In panic attacks, people tend to get very frightening thoughts about what is happening to them, which are closely related to the bodily sensations they get in a panic attack (e.g., if you feel light-headed you might worry you are going to pass out).
3. Research shows that these frightening thoughts are actually the key to panic.
4. Quite small things can trigger panic in the first place (e.g., small bodily sensations).
5. This can then lead to a vicious cycle, where sensations lead to thoughts of danger, leading to feelings of fear, producing a rush of bodily sensations, making you feel more concerned that there is something wrong.
6. The beliefs that the sensations are harmful are kept going by:
   a. Selectively noticing and having negative ideas about your bodily sensations
   b. Having images of awful things that could happen
   c. Taking precautions and avoiding situations where you fear the worst might happen (which stop you finding out that it does *not* actually happen)
7. In actual fact, it is more likely that the sensations are not going to harm you but are just a normal effect of increases in adrenaline.
8. To get rid of panic attacks, you will work with your therapist to develop a less frightening explanation for what is happening.
9. With your therapist you will use techniques to help you identify your thoughts, find out how realistic they are, and learn how to deal with panic attacks.

Well done. You have now completed Workbook 1.

Please make any notes on the next page if there are things you would like to discuss further with your therapist.

Please remember to bring this workbook to your next session.

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https://oxcadatresources.com

OXCADAT RESOURCES

RESOURCES FOR COGNITIVE THERAPY FOR PTSD, SOCIAL ANXIETY DISORDER AND PANIC DISORDER.

Materials for brief cognitive therapy for panic: https://oxcadatresources.com

PANDA Study Adolescent Baseline Demographic Characteristics

	Brief Cognitive Therapy (n = 16)	General CBT (n = 18)	Full Sample (n=34)
Age in years, mean (*SD*), range	14.65 (1.23), 13-17	14.97 (1.59), 12-17	14.82 (1.42), 12-17
Gender			
Female	14 (87.50)	16 (88.89)	30 (88.2)
Male	2 (12.50)	1 (5.56)	3 (8.8)
Other	0	1 (5.56)	1 (2.9)
Ethnicity, n (%)			
White (any)	16 (100)	16 (88.89)	32 (94.12)
Black (any)	0	0	0
Asian (any)	0	0	0
Mixed/multiple	0	1 (5.56)	1 (2.9)
Other	0	1 (5.56)	1 (2.9)
Socio-economic status, n (% of group)			
Higher professional	7 (43.75)	13 (72.22)	20 (58.8)
Other employed	8 (50.00%)	3 (16.67)	11 (32.4)
Unemployed	0	1 (5.56)	1 (2.9)
Not recorded	1 (6.25)	1 (5.56)	2 (5.9)
Medication	0	0	0

PANDA Study Adolescent Baseline Clinical Characteristics

	Brief Cognitive Therapy (n=16)	General CBT (n=18)	Full sample (n=34)
Panic Disorder Severity Scale, mean (SD), range	14.00 (4.89), 6-24	13.17 (5.29), 4-24	13.56 (5.05), 4-24
Primary Panic Disorder	81%	94%	88%
Other anxiety disorders			
Social anxiety disorder	56%	67%	62%
Agoraphobia	44%	44%	44%
Generalised anxiety disorder	25%	39%	32%
Separation anxiety disorder	13%	13%	12%
Specific phobia	13%	6%	9%
Other psychiatric disorders			
Major depressive disorder	6%	11%	9%
OCD	0	11%	6%

Feasibility Progression Criteria	Findings
1. Establish likely recruitment rates *To progress: ≥30 participants recruited; ≥80% participants agree to randomisation*	✓ 34 participants recruited; 97.1% of eligible participants agree to randomisation
2. Establish the likely rate of treatment drop-out *To progress: Treatment drop-out rate of 20% in both treatment arms at 3-month follow-up*	✓ 6% drop-out rate (n=1 in each arm)
3. Establish likely retention to research assessments post treatment *To progress: ≥80% of participants will complete the PDSS-A at post-treatment and 3-month follow-up assessment*	Brief CT ✓ 94% completed PDSS at post-treatment ✓ 88% completed PDSS at 3-month follow-up General CBT ✓ 89% completed PDSS at post-treatment ✓ 100% completed PDSS at 3-month follow-up
4. Explore retention to a brief 12-month follow-up *No progression criteria set*	Brief CT 75% completed PDSS to date General CBT 83% completed PDSS to date

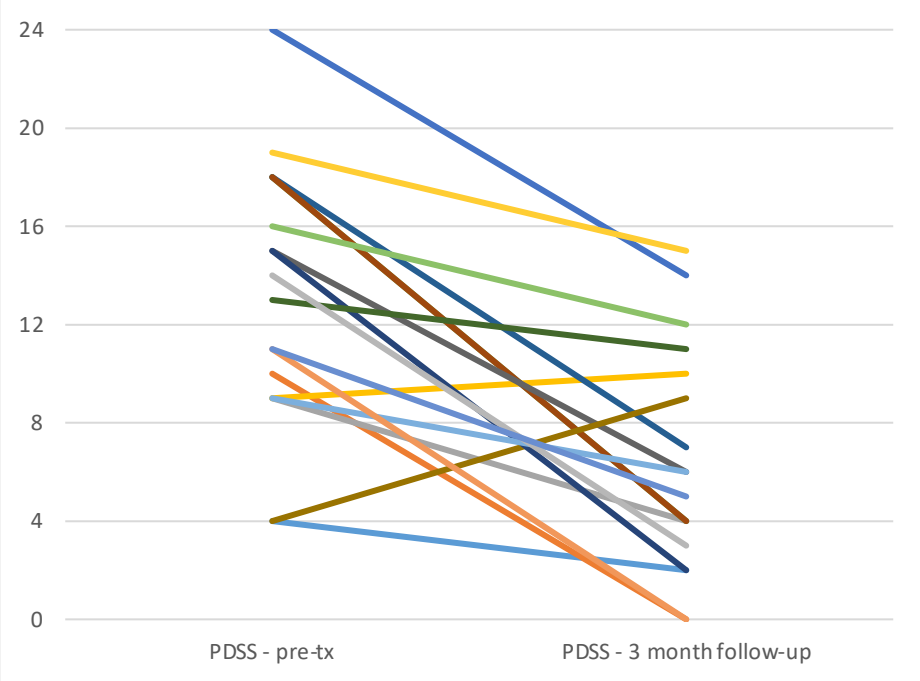
Feasibility Progression Criteria	Findings
5. Identify appropriate clinical outcome and economic measures for a subsequent definitive trial	✓ Appropriate measures identified
6. Establish if brief cognitive therapy can be delivered so that it is clearly distinct from a general form of CBT, with high levels of fidelity by practitioners and credibility with patients in both arms *To progress: In both arms, sessions contain ≥80% 'allowable'/ ≤20% 'non-allowable' features of the specific intervention*	In progress

Feasibility Progression Criteria	Findings
7. Explore the acceptability of the treatments and trial procedures No serious concerns raised in qualitative interviews No serious concerns on pre-treatment Credibility and Expectation Scale No serious concerns on 3-month FU Experience of Service Questionnaire	✓
8. Describe negative impacts of the treatments and the trial procedures No serious concerns raised in qualitative interviews Serious negative impacts do not occur because of participation in the trial	✓

Feasibility Progression Criteria	Findings
9. Conduct exploratory analyses of possible outcomes for the two treatments on clinical and health economic outcomes	In progress

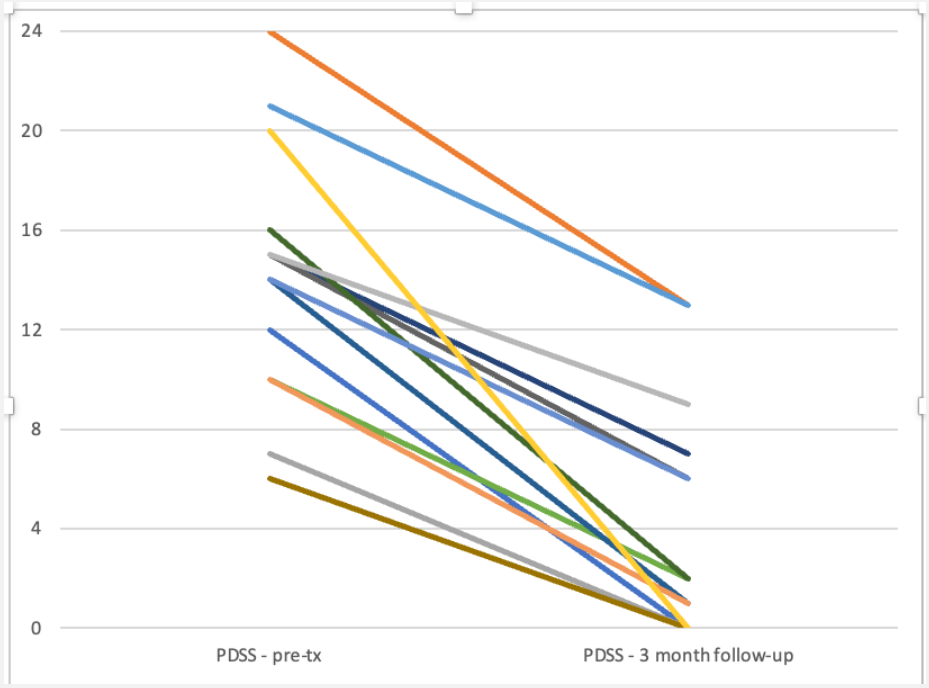
3-month Follow-Up Panic Disorder Severity Scale

Brief General CBT



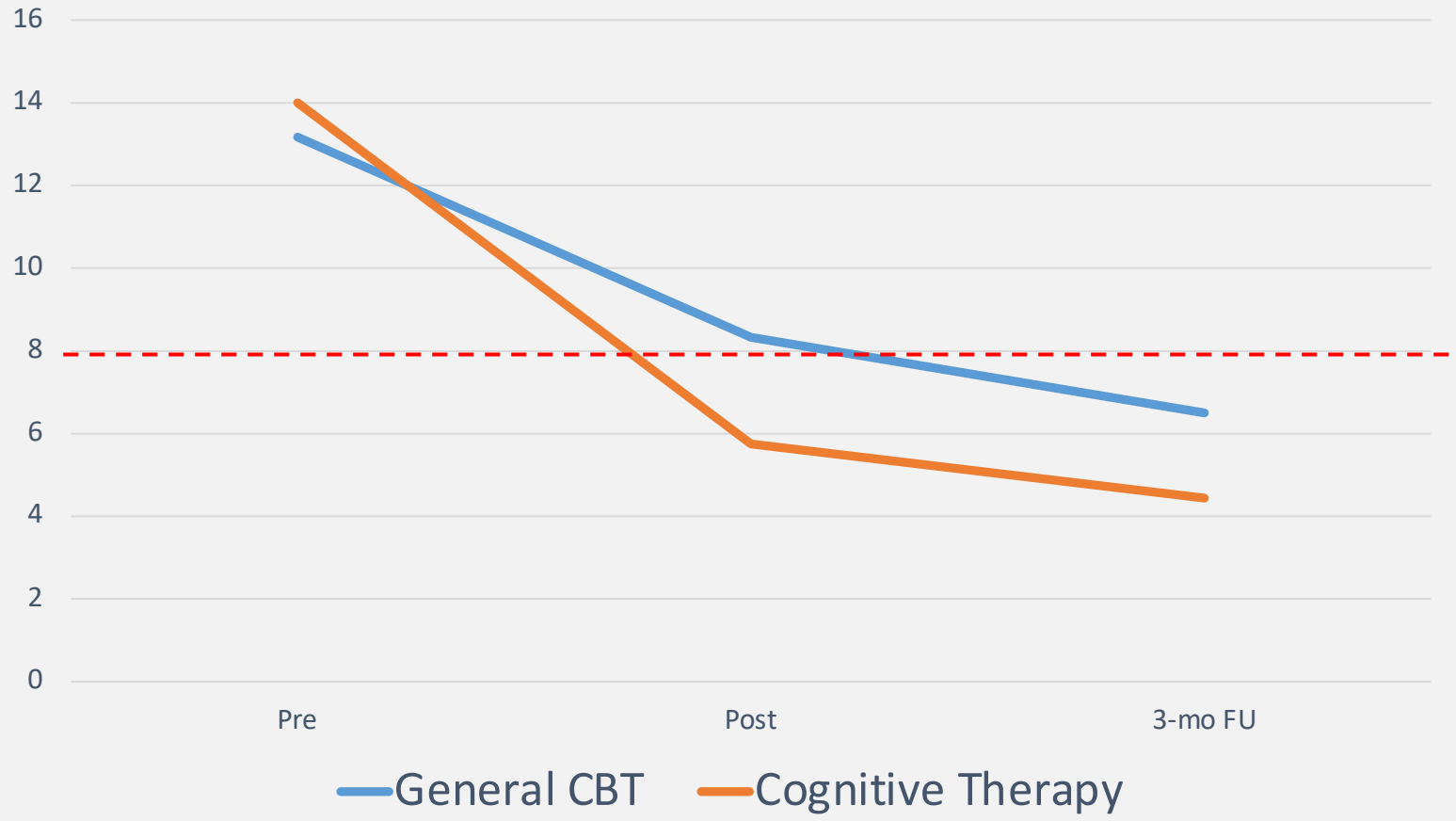
Mean pre-treatment	13.17 (5.29)
Mean 3-month follow-up	6.33 (4.58)
Post-treatment effect size	1.29
Reliable improvement	56%

Brief Cognitive Therapy



Mean pre-treatment	14.00 (4.89)
Mean 3-month follow-up	4.44 (4.62)
Post-treatment effect size	1.96
Reliable improvement	100%

Panic Disorder Severity (last observation carried forward)

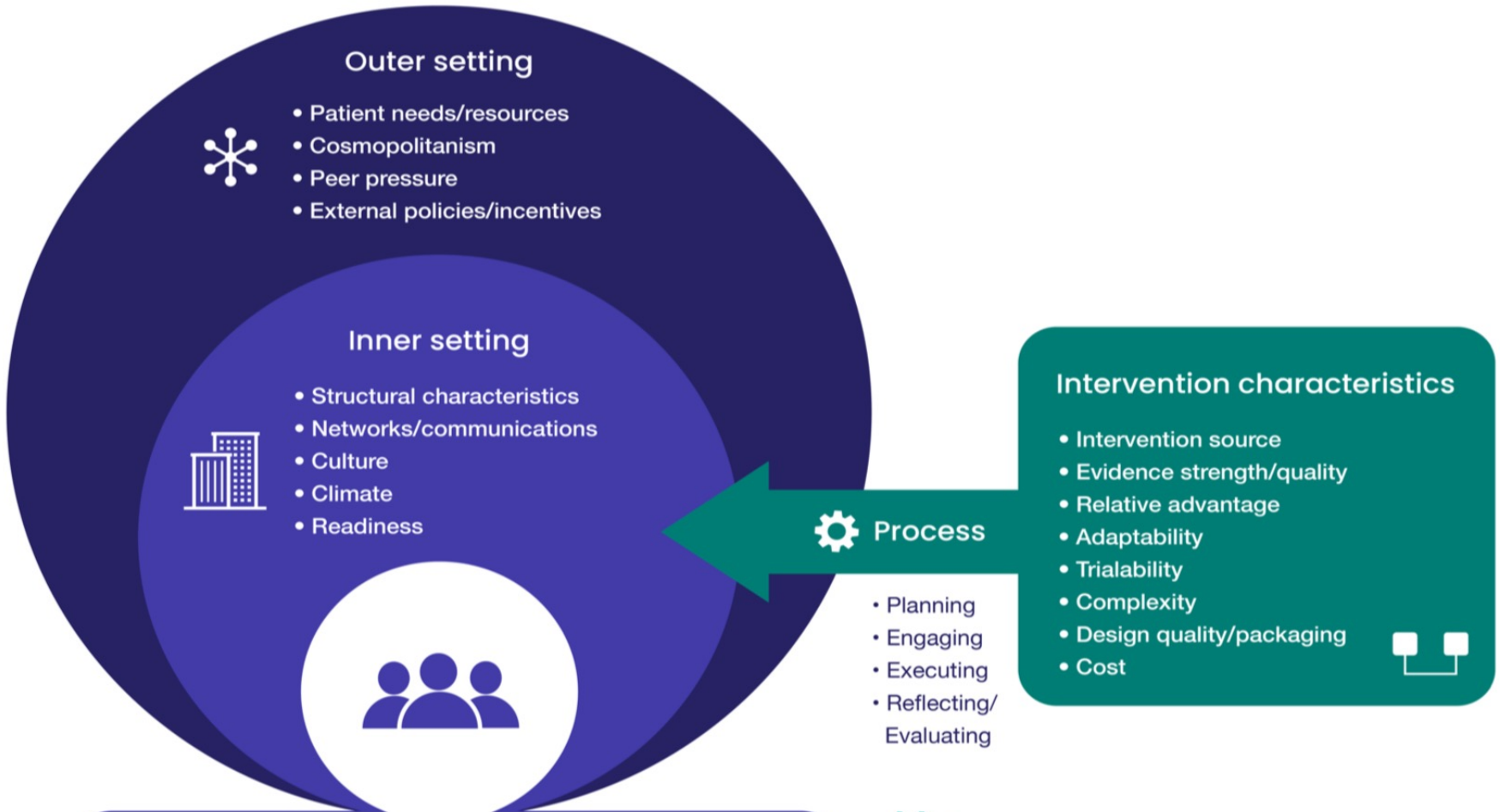


Waite, P. et al. (in preparation). Findings from a Randomised Controlled Feasibility Study Examining the Efficacy of Brief Cognitive Therapy For the Treatment of Panic Disorder in Adolescents (PANDA).

Implementation issues – what we've learned

Recruitment required large outreach programme and clinic to identify possible participants	Having a service that valued and prioritized the research was crucial	It was possible to deliver the treatment remotely/hybrid
High staff turnover	Payments were helpful to compensate participants in completing measures	Adequate resourcing is important

Consolidated Framework for Implementation Research (CFIR)



The Center for Implementation

Figure adapted by The Center for Implementation

Source: Damschroder, L.J., Aron, D.C., Keith, R.E. *et al*. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Sci* **4**, 50 (2009). http://doi.org/10.1186/17485908-4-50

To Implement a large scale RCT

Intervention Characteristics	Outer Setting	Inner Setting	Characteristics of individuals
• Reduce complexity of delivery (assessment and intervention) • Consider ways to deliver treatment that retains acceptability but improve deliverability	• Increase awareness and identification of PD in community and clinical services	• Development of a model of training, supervision and treatment delivery • Work with services to ensure fit within service • Ensure clinicians are given time for training and delivery and necessary resources • Get leadership teams on board/build relationships at all levels	• Increase knowledge of PD and intervention • Enhance self-efficacy and motivation through training and supervision

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Any Questions?