

## SUPPLEMENTARY MATERIALS

A randomised controlled feasibility trial (the HARMONIC Trial) of a novel modular transdiagnostic intervention—Shaping Healthy Minds—versus psychological treatment-as-usual, for mood, stressor-related and anxiety disorders in clinic-attending adults

**Supplementary Table S1.**

*Additional Outcome and Process measures to assess changes in potential mechanisms of psychological distress and in response to specific transdiagnostic intervention modules.*

<b>Measure</b>	<b>Focus area</b>	<b><math>\alpha</math> in the current sample</b>
The Treatment Credibility / Expectancy Questionnaire (CEQ) [Deville & Borkovec, 2000]	Expectancy about treatment outcome, as well as the credibility of the treatment for those receiving the <i>SHM</i> intervention.	
Cognitive Emotion Regulation Questionnaire (CERQ) [Garnefski et al., 2001]	Ability to contextualize negative events within a wider frame of reference.	.80
The Experiences Questionnaire (EQ) [Fresco et al., 2007]	Ability to disengage from troublesome mental content and take a more accepting stance towards it, as well as the tendency to engage in rumination.	.62
Differential Emotions Scale (DES) [Izard et al., 1993]	Intensity with which they experience different emotions on a typical day to obtain summary scores for positive emotions, negative emotions, and denied emotions (the number of emotions <i>not</i> endorsed by the participant).	.89
Levels of Personality Functioning Scale (LPFS) [Morey, 2017]	Personality functioning based on the DSM-5 Alternative Model of Personality Disorders. It has four subscales: Identity, Self-Direction, Empathy, and Intimacy.	.88
Inventory of Depression and Anxiety	Disorder-specific and transdiagnostic symptom dimensionality within a single measure.	.97

Symptoms (IDAS-II) [Watson et al., 2012]	
Ruminative Responses Scale of the Response Styles Questionnaire (RRS) [Treyner et al., 2003]	Rumination (Module 7 – Overcoming Repetitive Thinking)
Distress Tolerance Scale (DTS)[Simons & Gaher, 2005]	Ability to tolerate distress (Module 3 – Managing and Tolerating Emotions)
Difficulties with Emotion Regulation Scale (DERS) [Gratz & Roemer, 2004]	Ability to label, perceive, and regulate emotions (Modules 2 – Understanding Emotions and 3 – Managing and Tolerating Emotions)
Dysfunctional Attitudes Scale (DAS) short form (version 1 and 2) [Weissman, 1979]	Negative beliefs, thoughts and assumptions (Module 6 – Tackling Unhelpful Thoughts)
Kentucky Inventory of Mindfulness Skills (KIMS) [Baer et al., 2004]	Mindful awareness (Module 2 – Understanding Emotions)
Anxiety Sensitivity Index (ASI) [Reiss et al., 1986]	Fear of physical anxiety sensations (Module 3 – Managing and Tolerating Emotions and Module 5 – Tackling Avoidance)
Posttraumatic cognitions inventory – short version (PTCI) [Foa et al., 1999]	Trauma-related beliefs and maladaptive appraisals of intrusive symptoms (Module 9 – Managing Upsetting Memories and Images)

Skills of Cognitive Therapy (SoCT) [Jarrett et al., 2011]	Implementation of cognitive therapy skills (Module 6 – Tackling Unhelpful Thoughts)
The Multidimensional Experiential Avoidance Questionnaire [Gamez et al., 2011]	Avoidance of internal experiences including thoughts, feelings, physical sensations (Module 5 – Tackling Avoidance)

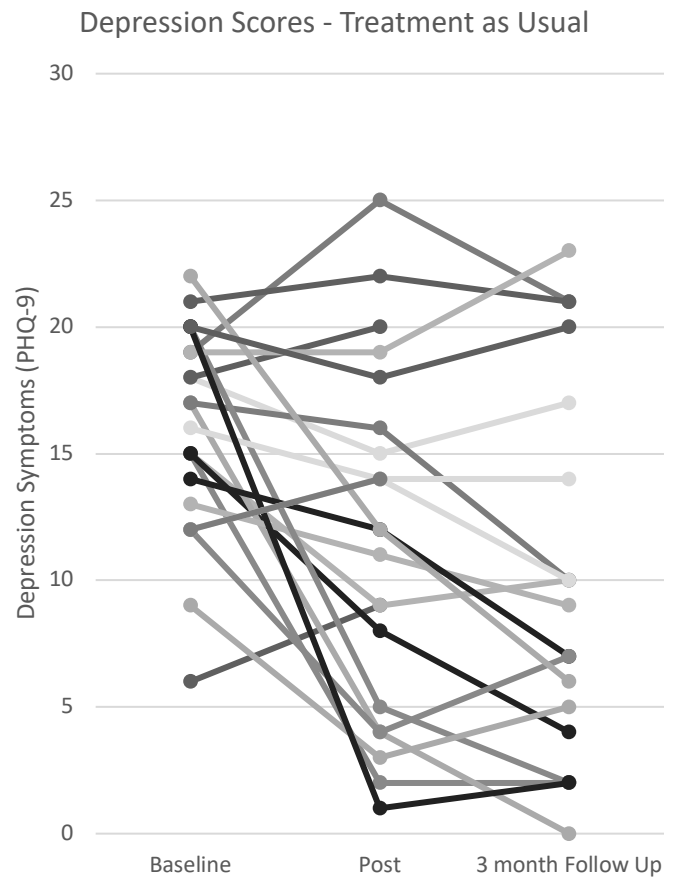
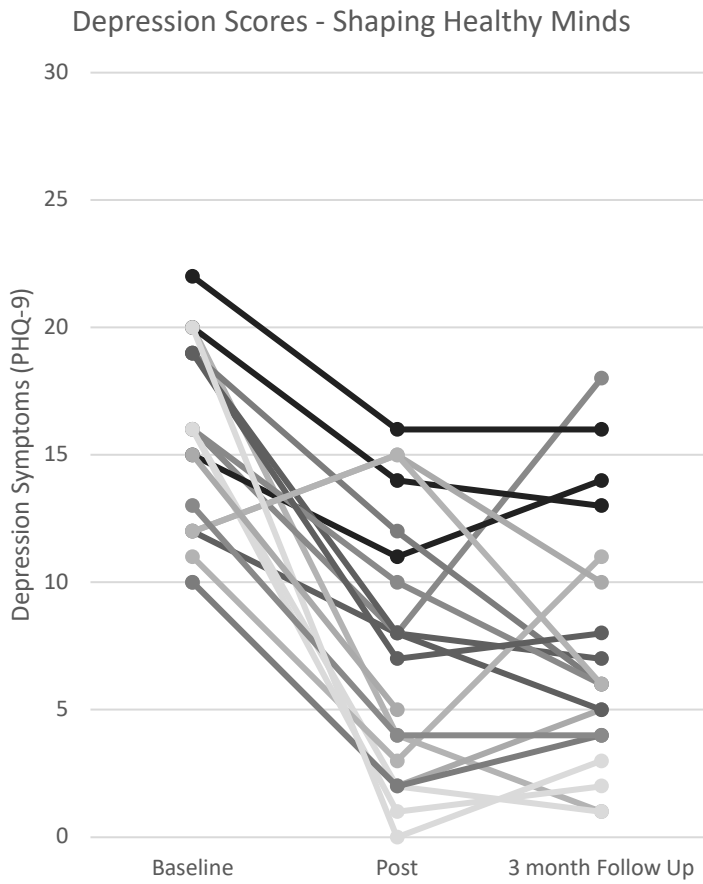
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Note. Participants completed a selection of these measures depending on their concerns and associated diagnoses, as well as the modules they completed throughout therapy.

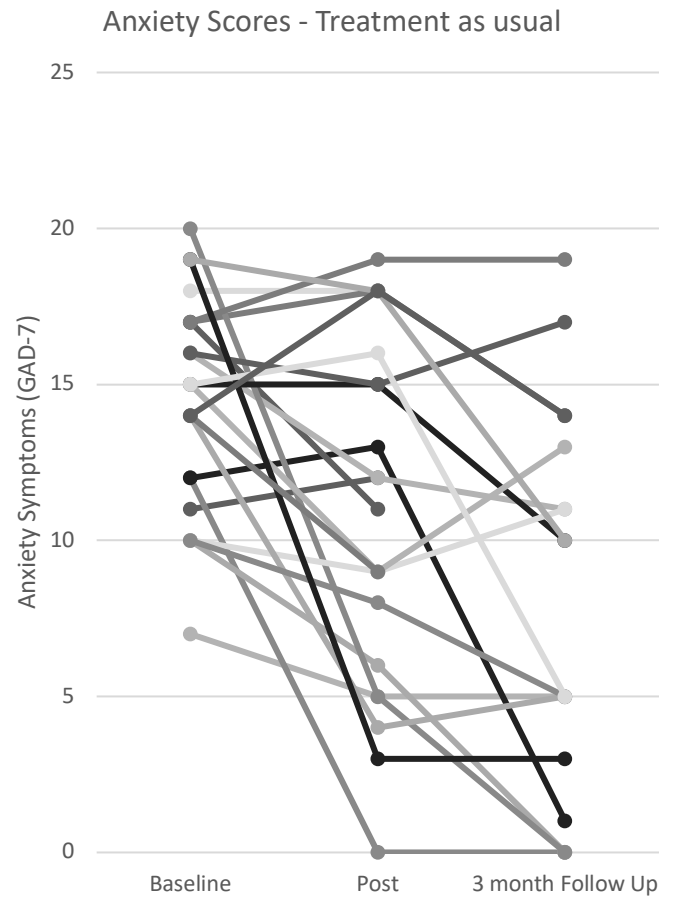
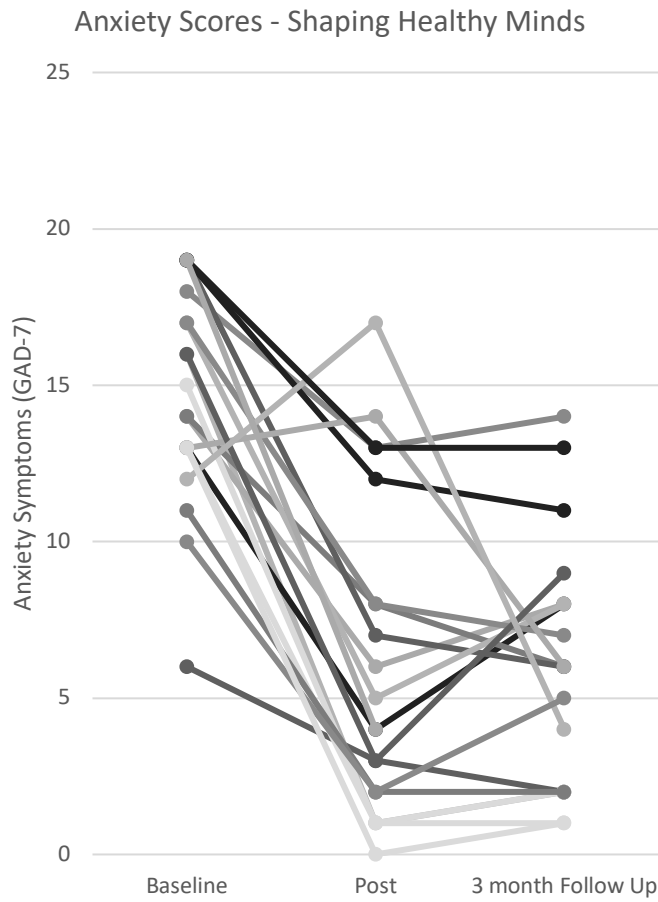
**Supplementary Table S2. Results of ANCOVA for Primary Outcome Measures**

	Baseline to Post-treatment		Baseline to 3-month Follow-Up	
	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>
Depression symptoms (PHQ-9)				
Age	0.61	.44	2.91	.10
Intervention	3.10	.09	0.33	.57
Anxiety symptoms (GAD-7)				
Age	0.95	.38	5.29	.03
Intervention	5.76	.02	0.41	.52
Impact on functioning (WSAS)				
Age	2.23	.14	2.31	.14
Intervention	3.02	.09	0.93	.34
No. of diagnoses				
Age	0.03	0.86	2.47	.12
Intervention	9.07	.005	0.55	.46

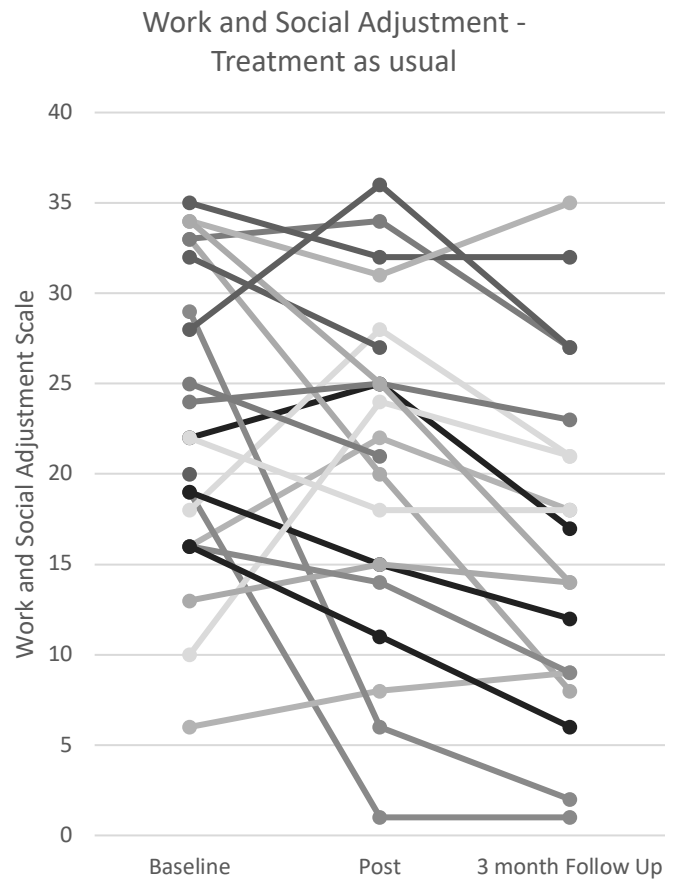
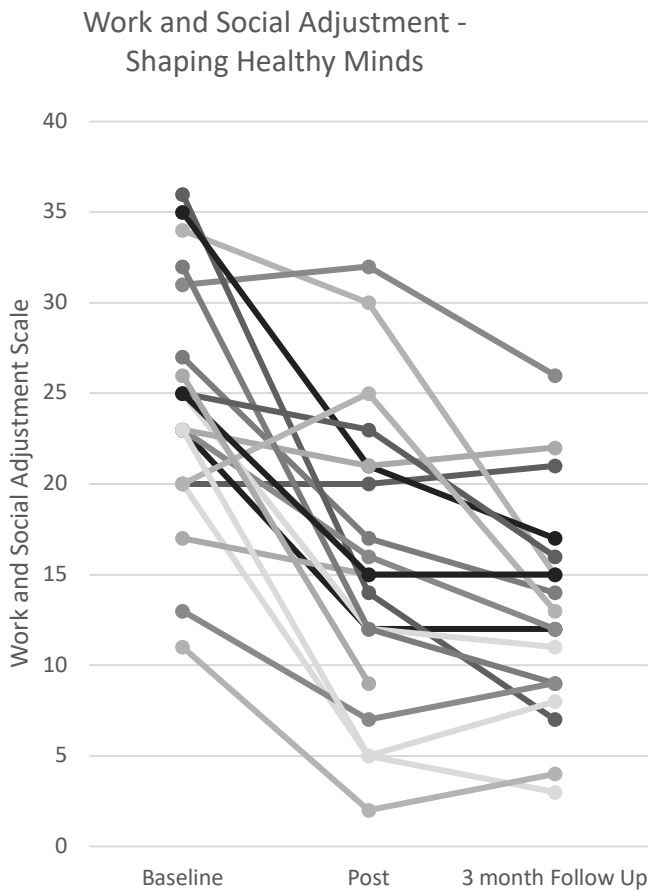
*Note.* One-way ANCOVA across baseline, post-treatment and 3-month follow up; on intent-to-treat imputed data. These results indicate that age did not adjust the overall pattern of results of the ANOVA reported in the main analyses.



**Supplementary Figure S1.** Individual participant trajectories on depression symptoms assessed using the Patient Health Questionnaire (PHQ-9), split by treatment group.

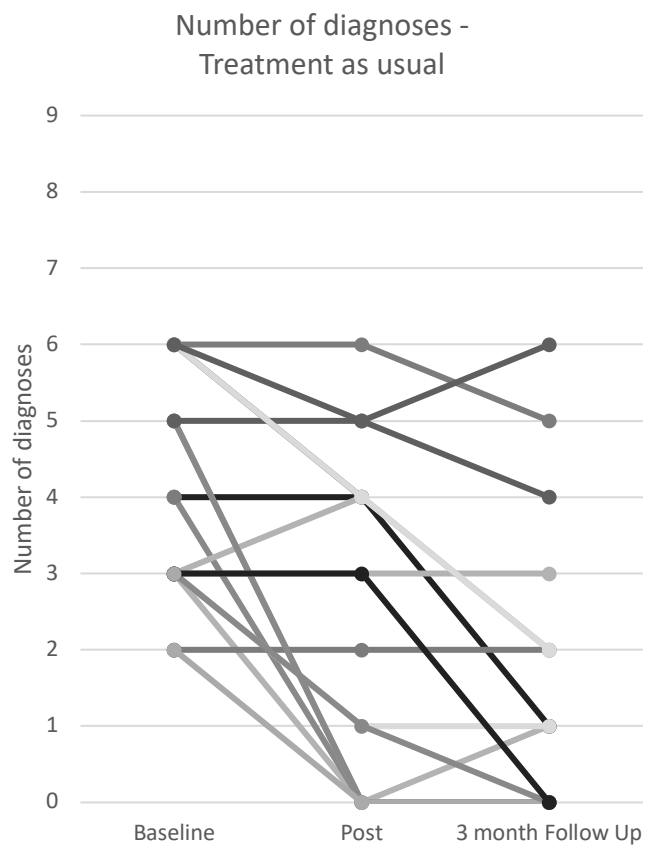
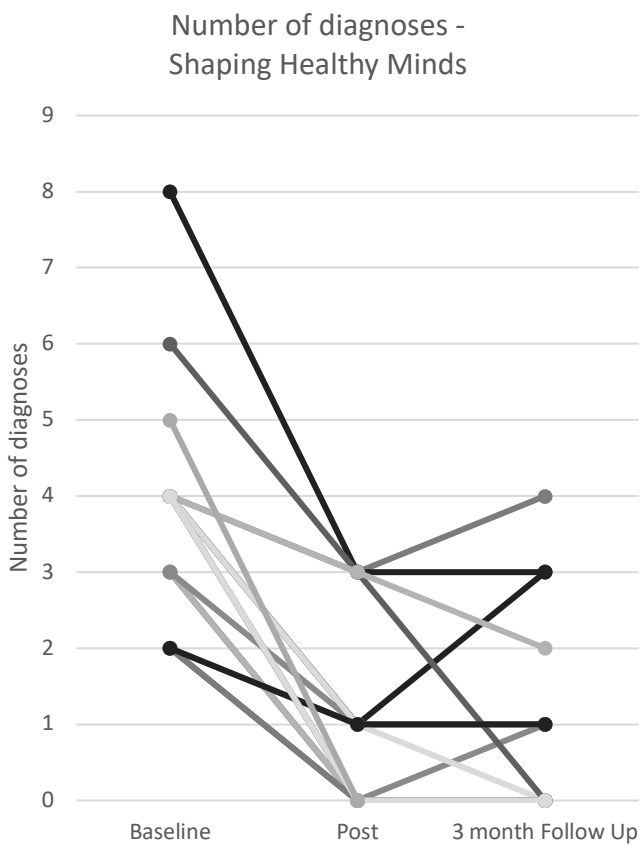


**Supplementary Figure S2.** Individual participant trajectories on anxiety symptoms on the General Anxiety Disorder Questionnaire (GAD-7), split by treatment group.



**Supplementary Figure S3.** Individual participant trajectories on the Work and Social Adjustment Scale, split by treatment group.





**Supplementary Figure S4.** Individual participant trajectories on number of diagnoses, split by treatment group.

**Supplementary Table S2.** Completion Rates for the randomised sample ( $n=42$ ) for Secondary Outcome and Process measures

	Baseline %	Post %	3-month Follow Up %
<i>Process measures</i>			
Levels of Personality Functioning Scale	100	86	83
Cognitive Emotion Regulation Scale	100	86	83
Experiences Questionnaire	100	86	83
Differential Emotions Scale	100	86	83
Inventory of Depression and Anxiety Symptoms	95	86	83
<i>Secondary diagnosis measures</i>			
Agoraphobia Mobility Inventory	12	24	29
Fear Questionnaire	14	10	7
Health Anxiety Inventory	5	2	2
Impact of Event Scale	38	31	31
Obsessive Compulsive Inventory	31	24	21
Panic Disorder Severity Scale	48	36	40
Penn State Worry Questionnaire	88	76	74
Sheehan Disability Scale	36	17	17
Social Phobia Inventory	64	60	50

### ***Supplementary Information – Informal treatment feedback for SHM participants***

Following the intervention, participants who received the SHM intervention provided positive feedback, with most noting that they liked the flexibility and tailoring of the treatment. Many participants found that the sequence of modules suited their needs, while others noted that there had not been sufficient time within the twenty sessions to cover all content. A few participants suggested that it might have been helpful to map out their journey through the modules closer to the beginning. There was mixed feedback about the client manuals – some participants liked the detailed and relevant content, but others found it either overwhelming or not as relevant to their concerns.

## Supplementary Information – Health Economic Analyses

*Intervention Costs.* The estimated cost of the intervention was based on the number of treatment sessions multiplied by the hourly cost of seeing the level of therapist the participant was assigned to. Treatment sessions were costed as occurring for one hour. The mean cost per participant of providing the SHM treatment was £961.29, compared to the PTAU which was £563.14. This was due to differences in the average number of sessions which for the SHM group was 19 ( $SD = 1.80$ ) compared to PTAU which was 10.43 ( $SD = 4.54$ ).

*Cost effectiveness – alternative analysis.* Rather than using the mean costs and QALYs, some authors have suggested that the median may be more appropriate (Bang & Zhao, 2016). We re-calculated cost-effectiveness from an NHS perspective for SHM over PTAU. Using this method, the Incremental Cost Effectiveness Ratio is - £110 096 between Baseline and Post-Treatment (suggesting that the SHM intervention was both more costly and less effective than TAU), and at 3-month follow-up the Incremental Cost Effectiveness Ratio is £18 349.33 (suggesting that the SHM intervention was both more costly and more effective than TAU).

*Costs to the NHS.* Questionnaires issued to participants at baseline, post-treatment and 3-month follow up, were used to collect information on healthcare use associated with the individual. Examples of these resources include hospital and ambulance use, district nurse consultations, and use of NHS walk-in centres. The sources used to value these resources uses were primarily NHS National Reference Costs for 2017/2018. NHS Utility Costs are displayed in Supplementary Table S3.

**Supplementary Table S3.** Mean (SD) NHS Utility Costs measured on the Healthlines Resource Use Questionnaire associated with time and treatment group

	Baseline	Post Treatment	3-month follow-up
PTAU (N = 14)	£162.57 (379.29)	£35.00 (73.40)	£39.25 (74.75)
SHM (N = 17)	£61.35 (126.57)	£51.55 (138.20)	£33.91 (139.80)

*Costs to the Individual.* Participants' reported use of private health service (e.g., private psychiatrists), out-of-pocket expenditure (e.g., self-help books) and costs associated with employment, due to their respective mental health condition. Costs to the individual are displayed in Supplementary Table S4.

**Supplementary Table S4.** Mean (SD) costs to the individual measured on the Healthlines Resource Use Questionnaire associated with time and treatment group

	Baseline	Post Treatment	3-month follow-up
PTAU (N = 14)	£3,403.99 (7367.05)	£1,662.99 (3225.19)	£936.40 (2231.36)
SHM (N = 17)	£543.701 (1365.54)	£28.29 (58.70)	£11.85 (19.56)

*Costs to Society.* Participants reported on their reliance on friends and family to assist with things such as costs associated with gym membership, self-help books and assistance with childcare. These costs were largely driven by the costs associated with utilising friends to assist with childcare. Costs to society are displayed in Supplementary Table S5.

**Supplementary Table S5.** Mean (SD) costs to society measured on the Healthlines Resource Use Questionnaire by time and treatment group

	Baseline	Post Treatment	3-month follow-up
PTAU (N = 14)	£183.12 (433.74)	£3,096.39 (10405.09)	£5,751.89 (19243.88)
SHM (N = 17)	£171.92 (419.20)	£630.66 (2560.98)	£2,688.90 (11086.63)

*Costs to Government – Recipient of Government Support.* Individuals reported on whether they were being supported by government benefits and the respective amount. At the beginning of the trial, seven participants (4 PTAU, 3 SHM) were in recipient of government supported payments.

At post-treatment, this increased to eight (5 PTAU; 3 SHM) and at 3 months follow up a total of 5 (2 PTAU 3 SHM). Costs to government are displayed in Supplementary Table S6.

**Supplementary Table S6.** Displaying Costs associated with Government Benefits measured on the Healthlines Resource Use Questionnaire by time and treatment group

	Baseline	Post Treatment	3-month follow-up
PTAU (N = 14)	£142.86 (534.52)	£229.71 (603.83)	£142.86 (534.52)
SHM (N =17)	£145.41 (430.18)	£207.06 (587.24)	£323.75 (712.30)

## Supplementary References

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