Appendix E:
Outcome Measures

Date: November 2021

Version 2

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Questionnaire schedule

Black Dog Institute

Construct	Instrument	Registration	Baseline	Primary endpoint (i.e., 6-week post-baseline)	Secondary endpoint (i.e., 4-months post-baseline)	Scale length
Primary Outcome						
Depressive symptoms	Patient Health Questionnaire: Adolescent version (PHQ-A)	-	✓	✓	✓	9 items
Secondary Outcomes						
Anxiety symptoms	Generalised Anxiety Disorder-7 (GAD-7)	-	✓	✓	✓	7 items
Psychological distress	Distress Questionnaire-5 (DQ-5)	-	✓	✓	✓	5 items
Emotional wellbeing	The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS)	-	✓	✓	✓	8 items
Quality of life	The Child Health Utility 9D (CHU-9D)	-	✓	✓	-	9 items
Rumination	Ruminative Responses Scale (RRS-SF)	-	✓	✓	✓	10 items
Emotion regulation	Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA)	-	✓	✓	✓	10 items
CBT skill acquisition	Cognitive Behavioural Therapy Skills Questionnaire (CBTSQ)	-	✓	✓	✓	16 items
Additional study measures						

Registration details	Registration Questionnaire	✓	-	–	–	4 items
Demographics	Demographics Questionnaire	-	✓	–	–	
Perceived need and help-seeking barriers	Perceived Need for Care Questionnaire (PNCQ)	-	✓	✓	✓	4 items
Digital therapeutic alliance	Digital Working Alliance Inventory (D-WAI)	–	–	✓	–	6 items
Digital program satisfaction	Satisfaction Questionnaire	–	–	✓	–	11 items
Digital program barriers	Barriers Questionnaire	–	–	✓	–	14 items
Recent mental health care	Mental Health Care Questionnaire	–	–	✓	✓	5 items
Withdrawal reasons	Withdrawal question	*Only participants who choose to withdraw (at any point) during the study will be asked this question.*				1 item
Intervention Use		*Use of the digital CBT interventions will be captured automatically throughout the study period.*				

Questionnaire descriptions
Primary Outcome

Depressive symptoms (Patient Health Questionnaire: Adolescent version)
Severity of depression symptoms will be self-reported at each time-point (baseline, 6-week, 12-week) using the Patient Health Questionnaire for Adolescents (PHQ-A; Johnson et al., 2002). The PHQ-A is a 9-item adapted version of the PHQ-9 questionnaire validated (Johnson et al., 2002; Kroenke et al., 2001) and endorsed for research and clinical evaluation with adolescents (American Psychiatric Association, n.d). Items in the PHQ-A are based on DSM-IV criteria to assess depressive symptomology (i.e., anhedonia, irritability, sleep, lack of energy, impaired concentration, and low self-esteem, etc.). The self-report questionnaire measures the severity and frequency of depression symptoms in the previous 14 days, with items rated on a 4-point scale ranging from "Not at all (0)" to "Nearly every day (3)." Total scores on the PHQ-9 depression scale can range from 0 to 27, with higher scores indicating more severe depressive symptoms. Suicidal ideation is assessed on the 9th item of the scale "Thoughts that you would be better off dead, or of hurting yourself in some way?". The severity categories are as follows: *minimal or no symptoms* (score of 0-4), *mild symptoms* (score of 5-9), *moderate symptoms* (score of 10-14), *moderately severe symptoms* (score of 15-19), and *severe symptoms* (score of 20-27).

Secondary Outcomes

Anxiety Symptoms (Generalized Anxiety Disorder-7)
The Generalized Anxiety Disorder-7 (GAD-7: Spitzer, Kroenke, Williams, Lowe & 2006) is a 9-item self-report measure designed to assess the severity of generalized anxiety symptoms over the previous 2-week period. Items are rated on a four-point scale, ranging from "Not at all sure (0)" to "Nearly every day (3)." Total scores on the GAD-7 can range from 0 to 21 with higher scores indicating higher levels of anxiety. The GAD-7 has been shown to have good psychometric properties in a large adolescent sample (Tiirikainen et al., 2019).

Psychological Distress (Distress Questionnaire-5)
The Distress Questionnaire-5 (DQ-5; Batterham et al., 2016) is a brief 5-item screening measure describing symptoms of common mental disorders. The self-report tool assesses the frequency of psychological distress in the previous 30 days. Items are rated on a 5-point scale, ranging from "Never" (1) to "Always" (5). Total scores on the scale range from 5 to 25, with higher scores indicating greater psychological distress. The scale has established psychometric properties, demonstrated by strong internal consistency and high accuracy (Batterham et al., 2016; Batterham et al., 2018).

Psychological well-being (Short Warwick-Edinburgh Mental Wellbeing Scale)
The Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009; Tennant et al., 2007) is a 7-item scale designed to assess individuals' wellbeing in the previous 2 weeks. Items are rated on a 5-point scale, ranging from "None of the time" (1) to "All of the time" (5), with total scores ranging from 7 to 35. Higher scores indicate a higher level of mental well-being. Studies have shown the scale has satisfactory reliability and validity (Haver et al., 2015; Hunter et al., 2015; Ringdal et al., 2018).

Quality of life (The Child Health Utility 9D)
The Child Health Utility 9D (CHU-9D; Stevens, 2009) is a 9-item scale designed to measure child and adolescent health related quality of life. The measure covers nine domains of adolescent functioning including: worry, sadness, pain, tiredness, annoyance, schoolwork/homework, sleep, daily routine and ability to join activities. Each domain is rated on a 5-point scale, with each level representing increasing levels of severity within each domain (e.g., I don't feel worried today" to "I feel very worried today"). The scale has demonstrated good practicality, face and construct validity (Ratcliffe et al., 2011; Ratcliffe et al., 2012; Stevens & Ratcliffe, 2012).

Rumination (Ruminative Responses Scale-SF)
The Ruminative Responses Scale – short version (RRS; Treynor et al., 2003) is a 10-item scale adapted from the original 22-item scale developed by Nolen-Hoeksema (1991). The self-report instrument measures individuals'

tendency to engage in rumination. To assess ruminative response style, individuals are asked to rate each item in response to the statement "what you generally do, not what you think you should do when feel down, sad or depressed". The scale is composed of two subscales; reflection (e.g., "Write down what you are thinking and analyse it", and brooding (e.g., 'Think "What am I doing to deserve this?"'), with 5-items relating to each factor. Each item is rated on a 4-point scale ranging from "almost never" (1) to "almost always" (4), with total scores ranging from 10 to 40. Higher scores reflect higher levels of ruminative response styles. The measure has demonstrated high internal reliability and good test-retest reliability with adolescent and diverse cultures (Extremera & Fernández-Berrocal, 2006; He et al., 2021; Xavier et al., 2016).

Emotion Regulation (Emotion Regulation Questionnaire for Children and Adolescents)
The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA; Gullone & Taffe, 2012) is a 10-item scale modified with simple item wording to assess the Emotion Regulation strategies of Cognitive Reappraisal (e.g., "When I want to feel happier about something, I change the way I'm thinking about it.") and Expressive Suppression (e.g., "I keep my feelings to myself."). Items are rated on a 7-point scale, ranging from "Strongly disagree" (1) to "Strongly agree" (5). The cognitive reappraisal subscale has 6-items with total scores ranging from 6 to 30. The expressive suppression 4-items with scores ranging from 4 to 20. Higher scores on each subscale reflect greater use of the corresponding emotion regulation skill. The measure has shown good psychometric properties indicating it is a valid and reliable tool for the assessment of Emotion Regulation strategies in children and adolescents (Gullone & Taffe, 2012).

CBT Skill Acquisition (Cognitive Behavioural Therapy Skills Questionnaire)
The Cognitive Behavioural Therapy Skills Questionnaire (CBTSQ; Jacob et al., 2011) is a 16-item scale designed to measure the frequency individuals use cognitive behavioural skills. The measure is composed of two subscales measuring cognitive restructuring skills (e.g., "Catch myself when I jump to

conclusions") and behavioural activation strategies ("Plan activities for the weekends"). Items are rated on a 5-point scale, ranging from "I don't do this" (1) to "I always do this" (5). The behavioural Activation subscale has 7-items with total scores ranging from 7 to 35. The Cognitive Restructuring subscale has 9-items with total scores ranging from 9 to 45. Higher scores on the subscales indicate greater use of CBT skills. The CBTSQ is validated and has demonstrated high internal consistency (Jacob et al., 2011).

Additional study measures

Perceived need and Help-Seeking Barriers (Perceived Need for Care Questionnaire)
The perceived Need for Care Questionnaire is a four-item measure designed to reflect a conversation of perceived needs. The instrument has demonstrated good validity and reliability in a specialist anxiety clinic (Meadows et al., 2000). The measure has been adapted in large representative samples of adolescents to understand perceived need across four domains of adolescent mental health care; counselling, medication, information, and skill training (Johnson et al., 2018; Schnyder et al., 2020). If the respondent indicates receiving help in the previous 12 months, the measure assesses whether the level of care was sufficient, and where they perceive they need more help. For those who report not receiving help, they are asked whether their perceived need across the four domains. Perceived need is classified as fully met, partially met, unmet, or no need. Following Schnyder et al. (2020)'s use of the measure with a large sample of Australian adolescents, respondents who indicate an unmet or partially met need were asked about barriers to receiving help. Barriers were categorised as attitudinal or structural (e.g., "Couldn't get an appointment when needed [structural]" and "Wanted to work out the problem on my own [attitudinal; *self-reliance*]) (Mojtabai et al., 2011).

Digital Therapeutic Alliance (Digital Working Alliance Inventory)
The Digital Working Alliance Inventory (DWAI; Henson et al., 2019) is a six-item measure adapted from the Working Alliance Inventory- short version

(WAI-SF; Hatcher & Gillaspy, 2006, Horvath & Greenberg, 1989). The original scale is a well-recognised, valid, and reliable measure of alliance in face-to-face therapy. The DWAI has been modified for use to measure therapeutic alliance between an individual and a mobile phone health application. The measure assesses core domains, Goals (Item 1: "I trust the app to guide me towards my personal goals," Item 4: "I agree that the tasks within the app are important for my goals"), Tasks (Item 2: "I believe the app tasks will help me to address my problem," Item 5: "The app is easy to use and operate"), and Bond (Item 3: "The app encourages me to accomplish tasks and make progress," Item 6: "The app supports me to overcome challenges"). Each item is rated on a 7-point scale ranging from "strongly disagree" (1) to "strongly agree" (7), with total scores ranging from 6 to 42. Higher scores reflect higher levels of digital working alliance with the program. Preliminary evidence of the measure's psychometric properties is positive, demonstrating its' high internal consistency, discriminant validity, convergent validity in a randomised control trial with an unguided meditation app (Goldberg et al., 2021).

Questionnaires

Depressive symptoms: Patient Health Questionnaire: Adolescent version (PHQ-A)

Item	Variable Name	Values
Over the last 2 weeks, how often have you been bothered by the following problems?		
Little interest or pleasure in doing things	PHQA_1	Not at all (0)
Feeling down, depressed, irritable, or hopeless	PHQA_2	Several Days (1)
Trouble falling asleep, staying asleep, or sleeping too much	PHQA_3	More than half the days (2)
Poor appetite, weight loss, or overeating	PHQA_4	Nearly every day (3)
Feeling tired or having little energy	PHQA_5	
Feeling bad about yourself– or feeling that you are a failure, or that you have let yourself or your family down	PHQA_6	
Trouble concentrating on things like schoolwork, reading or watching TV	PHQA_7	
Moving or speaking so slowly that other people could have noticed Or the opposite – being so fidgety or restless that you were moving around a lot more than usual	PHQA_8	
Thoughts that you would be better off dead, or of hurting yourself in some way?	PHQA_9	
It looks like you are having a hard time right now. We recommend speaking to someone you trust about how you are feeling. Would you like to receive a confidential call from a psychologist from the research team?	PHQA_CallBack	This question is only asked if PHQA_9= ≥2

Anxiety symptoms: Generalised Anxiety Disorder-7 (GAD-7)

Item	Variable Name	Values
Over the last 2 weeks, how often have you been bothered by the following problems?		
Feeling nervous, anxious, or on edge	GAD7_1	Not at all (0)
Not being able to stop or control worrying	GAD7_2	Several Days (1)
Worrying too much about different things	GAD7_3	More than half the days (2)
Trouble relaxing	GAD7_4	Nearly every day (3)
Being so restless that it's hard to sit still	GAD7_5	
Becoming easily annoyed or irritable	GAD7_6	
Feeling afraid as if something awful might happen	GAD7_7	

Psychological distress: Distress Questionnaire-5 (DQ-5)

Item	Variable Name	Values
In the last 30 days…		
My worries overwhelmed me	DQ5_1	Never (1)
I felt hopeless	DQ5_2	Rarely (2)
I found social settings upsetting	DQ5_3	Sometimes (3)
I had trouble staying focused on tasks	DQ5_4	Often (4)
Anxiety or fear interfered with my ability to do the things I needed to do at work or at home	DQ5_5	Always (5)

Psychological well-being: The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS)

Item	Variable name	Values
Below are some statements about feelings and thoughts. Please choose the option that best describes your experience of each over the last 2 weeks.		
I've been feeling optimistic about the future	SWEMWBS_1	None of the time (1)
I've been feeling useful	SWEMWBS_2	Rarely (2)
I've been feeling relaxed	SWEMWBS_3	Some of the time (3)
I've been dealing with problems well	SWEMWBS_4	Often (4)
I've been thinking clearly	SWEMWBS_5	All of the time (5)
I've been feeling close to other people	SWEMWBS_6	
I've been able to make up my own mind about things	SWEMWBS_7	

Quality of life: The Child Health Utility 9D (CHU-9D)

Item	Variable name	Values
For each question, read all the choices and decide which one is most like you today.		
Worried	CHU9D_1_worried	I don't feel worried today (1)
		I feel a little bit worried today (2)
		I feel a bit worried today (3)
		I feel quite worried today (4)
		I feel very worried today (5)
Sad	CHU9D_2_sad	I don't feel sad today (1)
		I feel a little bit sad today (2)
		I feel a bit sad today (3)
		I feel quite sad today (4)

		I feel very sad today (5)
Pain	CHU9D_3_pain	I don't have any pain today (1)
		I have a little bit of pain today (2)
		I have a bit of pain today (3)
		I have quite a lot of pain today (4)
		I have a lot of pain today (5)
Tired	CHU9D_4_tired	I don't feel tired today (1)
		I feel a little bit tired today (2)
		I feel a bit tired today (3)
		I feel quite tired today (4)
		I feel very tired today (5)
Annoyed	CHU9D_5_annoyed	I don't feel annoyed today (1)
		I feel a little bit annoyed today (2)
		I feel a bit annoyed today (3)
		I feel quite annoyed today (4)
		I feel very annoyed today (5)
School work/homework (such as reading, writing, doing lessons)	CHU9D_6_school	I have no problems with my school work/homework today (1)
		I have a few problems with my school work/homework today (2)
		I have some problems with my school work/homework today (3)
		I have many problems with my school work/homework today (4)
		I can't do my school work/homework today (5)
Sleep	CHU9D_7_sleep	Last night I had no problems sleeping (1)
		Last night I had a few problems sleeping (2)
		Last night I had some problems sleeping (3)
		Last night I had many problems sleeping (4)
		Last night I couldn't sleep at all (5)

Daily routine (things like eating, having a bath/shower, getting dressed)	CHU9D_8_routine	I have no problems with my daily routine today (1) I have a few problems with my daily routine today (2) I have some problems with my daily routine today (3) I have many problems with my daily routine today (4) I can't do my daily routine today (5)
Able to join in activities (things like playing outside with your friends, doing sports, joining in things)	CHU9D_9_activities	I can join in with any activities today (1) I can join in with most activities today (2) I can join in with some activities today (3) I can join in with a few activities today (4) I can't join in with any activities today (5)

Rumination: Ruminative Responses Scale (RRS-SF)

	Item	Variable name	Values
	What you generally do when feel down, sad or depressed:		
Brooding	Think "What am I doing to deserve this?"	RRS-SF_1	Almost never (1)
	Think "Why do I always react this way?"	RRS-SF_2	Rarely (2)
	Think about a recent situation, wishing it had gone better.	RRS-SF_3	Often (3)
	Think "Why do I have problems other people don't have?"	RRS-SF_4	Almost always(4)
	Think "Why can't I handle things better?"	RRS-SF_5	
Reflection	Analyse recent events to try to understand why you are depressed.	RRS-SF_6	

Go away by yourself and think about why you feel this way.	RRS-SF_7	
Write down what you are thinking and analyse it	RRS-SF_8	
Analyse your personality to try to understand why you are depressed.	RRS-SF_9	
Go someplace alone to think about your feelings.	RRS-SF_10	

Emotion Regulation: Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA)

Item	Variable name	Values
Please answer the following questions about yourself.		
When I want to feel happier, I think about something different	ERQ-CA _1	Strongly disagree (1) Disagree (2) Half and half (3) Agree (4) Strongly agree (5)
I keep my feelings to myself.	ERQ-CA _2	
When I want to feel less bad (e.g., sad, angry or worried). I think about something different.	ERQ-CA _3	
When I am feeling happy, I am careful not to show it.	ERQ-CA _4	
When I'm worried about something, I make myself think about it in a way that helps me feel better.	ERQ-CA _5	
I control my feelings by not showing them.	ERQ-CA _6	
When I want to feel happier about something, I change the way I'm thinking about it.	ERQ-CA _7	
I control my feelings about things by changing the way I think about them.	ERQ-CA _8	

When I'm feeling bad (e.g. sad, angry, or worried). I'm careful not to show it.	ERQ-CA _9	
When I want to feel less bad (e.g. sad, angry, or worried) about something, I change the way I'm thinking about it	ERQ-CA _10	
Reappraisal (items 1, 3, 5, 7, 8 and 10) and Suppression (items 2, 4, 6 and 9)		

CBT skill acquisition: Cognitive Behavioural Therapy Skills Questionnaire (CBTSQ)

Item		Variable name	Values
Please select the response that describes how much you currently do the following things:			
Behavioural Activation subscale	Plan activities for the weekends.	CBTSQ_Bev_1	I don't do this (1) I do this a little (2) I sometimes do this (3) I frequently do this (4) I always do this (5)
	Engage in an activity instead of a harmful behaviour.	CBTSQ_Bev_2	
	Purposefully do fun things that I like when I am feeling badly.	CBTSQ_Bev_3	
	Motivate myself by doing things.	CBTSQ_Bev_4	
	Socialize even though I don't feel like it.	CBTSQ_Bev_5	
	Plan my time during the week.	CBTSQ_Bev_6	
	Communicate my needs effectively.	CBTSQ_Bev_7	

	Plan activities for the weekends.	CBTSQ_Bev_8	
	Engage in an activity instead of a harmful behaviour.	CBTSQ_Bev_9	
Cognitive Restructuring subscale	Identify situations that make my symptoms worse.	CBTSQ_Cog_1	
	Identify risk factors for relapse.	CBTSQ_Cog_2	
	Catch myself when I jump to conclusions.	CBTSQ_Cog_3	
	Notice when I start to feel more distressed.	CBTSQ_Cog_4	
	Challenge my thoughts	CBTSQ_Cog_5	
	Identify stressors that led me into treatment.	CBTSQ_Cog_6	
	Catch my negative thought patterns at the time that I have them.	CBTSQ_Cog_7	
	Keep track of the signs and symptoms of my condition.	CBTSQ_Cog_8	
	Find evidence to support.	CBTSQ_Cog_9	

Registration and Demographics

Items – Registration	Variable name	Values

Please answer the following questions about yourself.		
What is your first name?	First_name	Free text
What is your last name?	Surname	
What is your email address?	Email	Free text
What is your mobile phone number?	Mobile	Free text
How old are you?	Age	12, 13, 14, 15, 16, 17
Items – Demographics	**Variable name**	**Values**
What school grade are you in this year?	Grade	Year 7 (1) Year 8 (2) Year 9 (3) Year 10 (4) Year 11 (5) Year 12 (6) Not currently in school (7)
What is your current gender identity?	Gender	Female (1) Male (2) Non-binary (3) Different identity (4) Please state: (free text)
Which state or territory do you live in?	State	NSW (1), QLD (2), VIC (3), TAS (4), SA (5), WA (6), NT (7), ACT (8)
Would you describe your current address as metropolitan, regional or rural/remote?	Location	Metropolitan Regional Rural/Remote
Are you of Aboriginal or Torres Strait Island origin?	ATSI	No (1) Yes – Aboriginal (2)

		Yes – Torres Strait Islander (3) Yes – Aboriginal and Torres Strait Islander (4) Prefer not to say (5)
Do you identify as being Lesbian, Gay, Bisexual, Trans, Queer and/or Intersex (LGBTQI)?	LGBTQI	Yes (1) No (2) I'd rather not say (3)
Are you currently receiving any therapy or counselling treatment for a mental health problem or mental illness like depression or anxiety (e.g., psychologist, counsellor, support group)?	Current_treatment	Yes (1) No (2) I'd rather not say (3)
Are you currently taking any prescribed medication for a mental health problem or mental illness like depression or anxiety? (e.g. anti-depressants)	Current_medication	Yes (1) No (2) I'd rather not say (3)
Have you ever been diagnosed with anxiety or depression by a professional?	Diagnosis	No (1) Yes, depression only (2) Yes, anxiety only (3) Yes, both depression and anxiety (4) I don't know (5)
Have you ever used a mobile app to help you with your emotional wellbeing or mental health?	eHealth_use	Yes (1) No (2) I'd rather not say (3)
If yes -> Did you find it helpful?	eHealth_helpful	Yes (1) No (2)

		I can't remember (3)
How much do you think your emotional wellbeing could be improved by using a mental health smartphone app?	eHealth_expectations	Extremely (1) Very (2) Moderately (3) Slightly (4) Not at all (5)
How did you hear about this study?	Recruitment	Facebook/social media advertisement (1) Black Dog Institute website (2) Someone told me about it (3) Other (4) If other, please specify. (free text)
Why did you decide to participate in this study? (select all that apply)	Motivations	I need mental health care (1) I want to contribute to a broader social good (2) My parents/carers are encouraging me to (3) My friend is doing it too (4) I want to earn money (5) I want to help the research at the Black Dog Institute (6)

		I'm interested in learning about mental health (7)
		Other (8)
		If other, please specify. (free text)

Perceived need & help seeking barriers: Perceived Need for Care Questionnaire (PNCQ)

Item	Variable name	Values
1. In the past 12 months, please select all of the sources you received help from:	PNCQ_1	Information about emotional or mental health problems, treatment and available services (0)
		Prescribed medication for emotional or mental health problems (1)
		One-on-one, family, or group counselling/ talking therapy about problems or difficulties (2)
		Courses or other counselling for life-skills, self-esteem, or motivation (3)
		None of these sources of help (4)
*If **any item** selected in Q1 1, display item 2a.* *If **none** selected in Q1, display item 2b.*		
2a. Did you receive as much help as you needed?	PNCQ_Fullneed	Yes (1)
	PNCQ_Partialneed	No (2)
*If **yes** selected in item 2a, survey ends* *If **no** selected in item 2a, display question 3*		

2b. In the past 12, months did you think you needed help for emotional or behavioural problems?	PNCQ_Unmetneed	Yes (1)
	PNCQ_Noneed	No (2)
*If **yes** selected in item 2b, display question 3* *If **no** selected in item 2b, survey ends*		
3. Which of the following reasons kept you from getting the help you felt was needed? (select all that apply)	PNCQ_Barriers	Wanted to work out the problem on my own (1) Wasn't sure if I needed help (2) Wasn't sure where to get help (3) Thought that the problem would get better by itself (4) Problem getting to a service that could help (5) Couldn't afford it (6) Couldn't get appointment when needed (7) Worried what others might think/didn't want to talk to stranger (8) Asked for help at school, but didn't get it (9)

Digital therapeutic alliance: Digital Working Alliance Inventory (D-WAI)

Item	Variable name	Values
Please answer the following questions about the ClearlyMe app.		
I trusted the app to guide me towards my personal goals	DWAI _1	Strongly disagree (1) Disagree (2)
I believed the app tasks helped me address my problems	DWAI _2	Somewhat disagree (3)
The app encouraged me to accomplish tasks and make progress	DWAI _3	Neutral (4)

I agree that the tasks within the app were important for my goals	DWAI _4	Somewhat agree (5)
The app was easy to use and operate	DWAI _5	Agree (6)
The app supports me to overcome challenges	DWAI _6	Strongly agree (7)
Goals: 1 and 4 Tasks: 2 and 5 Bond: 3 and 6		

Digital program satisfaction: Satisfaction Questionnaire

Item	Variable name	Values
We'd like to see what you thought about the intervention you received during this study. **Please tell us whether you agree or disagree with the following statements:**		
I enjoyed using the ClearlyMe app I enjoyed receiving the SMS tips	Satisfaction_1	Agree (1) Disagree (2)
I thought ClearlyMe was interesting I thought the information was interesting	Satisfaction_2	
I found ClearlyMe easy to use I found the tips easy to access	Satisfaction_3	
ClearlyMe was easy to understand The tips were easy to understand	Satisfaction_4	
ClearlyMe helped me to feel in control of my feelings The tips helped me to feel in control of my feelings	Satisfaction_5	
The things I learned from ClearlyMe helped me in everyday life The things I learned from the tips helped me in everyday life	Satisfaction_6	

I would use ClearlyMe again in the future I would use the tips again in the future	Satisfaction_7	
I would tell a friend to use ClearlyMe if I thought they needed to I would share the tips with a friend if I thought they needed them	Satisfaction_8	
Overall, how helpful was Clearly Me for improving your mental health? Overall, how helpful was the tips for improving your mental health?	Satisfaction_9	Extremely unhelpful (1) Unhelpful (2) Neither (3) Helpful (4) Extremely helpful (5)
*If **helpful or extremely helpful** selected in item above, display item 10a then item 10b.* *If **unhelpful, neither ,extremely unhelpful** selected in item above, display item 10b.*		
10a. In what ways did ClearlyMe help you?	Satisfaction_10	Free text
10b. What would make ClearlyMe better?	Satisfaction_11	Free text
11. Would you be interested in participating in a 15 minute phone interview to tell us more about your experience using ClearlyMe?	Satisfaction_interview	Yes (1) No (2)

Digital program barriers: Barriers Questionnaire

Item	Variable name	Values
We'd like to know if you had any trouble using the **ClearlyMe** app. **During the study, did any of these things happen to you?**		
I forgot to use the app	Barriers_1	Yes (0) No (1)
I didn't have time to use the app	Barriers_2	
I couldn't be bothered to use the app	Barriers_3	
I felt too worried or too down to use the app	Barriers_4	
I didn't have a smartphone device to use the app	Barriers_5	

The app kept on crashing and/or freezing when I used it	Barriers_6	
The app was too hard to navigate	Barriers_7	
My screen time is limited and I didn't want to spend it using the app	Barriers_8	
I felt the app wasn't what I needed	Barriers_9	
I didn't trust the app	Barriers_10	
I thought that the app content took too long to read	Barriers_11	
I thought the activities were too hard to do on my phone	Barriers_12	
I thought the app used up too much of my phone data	Barriers_13	
The app made me feel worse	Barriers_14	

Recent mental health care

Item	Variable name	Values
Please answer the following questions about your mental health care during the study period.		
Throughout the study, have you been formally diagnosed with a mental illness like depression or anxiety from a mental health professional?	MHcare_1	Yes (0) No (1) I'd rather not say (2)
Throughout the study, did you feel like you needed to get professional help for a mental health issue like depression or anxiety (e.g. see a doctor or psychologist)?	MHcare_2	Yes (1) No (2) Unsure (3)
Throughout the study, did you receive any therapy or counselling treatment for a mental health problem or mental illness like depression or anxiety from a professional (e.g., psychologist, counsellor, support group)?	MHcare_3	Yes (1) No (2) I'd rather not say (3)

Throughout the study, did you start taking any prescribed medication for a mental health problem or mental illness like depression or anxiety, prescribed to you by a health professional? (e.g. anti-depressants)	MHcare_4	Yes (1) No (2) I'd rather not say (3)
Risk Management		
Throughout the study, have you had any mental health problems where you had to go to a hospital emergency department, or had to stay in hospital for more than one day?	Risk_1	Yes (1) No (2)
At any point throughout the study, did you feel that any of the study activities made your mental health or feelings of depression, anxiety, or suicidality worse?	Risk_2	Yes (1) No (2)

Withdrawal question

Item	Variable name	Values
Please tell us why you wish to withdraw from the study (select all that apply, optional):	Withdraw_why	I don't want to say (1)

I don't have enough time to participate (2)

The program isn't relevant to me anymore (3)

The program isn't helpful/ suited to my needs (4)

I'm experiencing too many technical problems (5)

The study or study activities made my mental health worse (6) |

		I have been hospitalised due to my mental health (7)
		Other (8)
		Please state: (free text)

Intervention Use – ClearlyMe app

This trial will collect the following usage data: lessons completed, collections completed, features accessed, total time spent in app, content liked/disliked, content saved, and individual responses to lesson activities. <u>For the study outcomes, engagement is defined as 'uptake' (i.e., app downloads), 'adherence' (i.e., completion of recommended content: 1 collection per week for six weeks) and 'completions' (i.e., total number of completed lessons, % of sample that completed more than half of the app content, % of sample that completed all of the app content).</u>

App downloaded	App download matched to individuals' study accounts
Lessons or collections started and completed (count and time taken).	Name of lessons started and timestamp recorded.
	Name of lessons completed and timestamp recorded.
	Name of collections started and timestamp recorded.
	Name of collections completed and timestamp recorded.
Duration of session (time logged on to program in one viewing):	Time that the program was opened and actively being viewed.
How a user accessed CBT content:	Name of collections accessed via *Stories*.
	Name of collections accessed via *Mood check*.

	Name of lesson accessed via *Mind Hacks*.
	Name of lesson accessed via name of collection .
	Name of lessons accessed via *View all*.
	Name of lessons accessed via *Saved (hearted)*.
	Name of lessons accessed via *In progress*.
Frequency that certain features are accessed:	*Stories (4)*
	View all
	Get help now
	Mood check
	Saved
How users rated content:	Name of collections "saved"
	Name of collections "liked"
	Name of collections "disliked"
	Name of lessons "saved"
	Name of lessons "liked"
	Name of lessons "disliked"
How users interacted with the content:	Free responses to lessons
	Mood responses to Mood check

Intervention Use – SMS psycho-education

Number of times psycho-education content is accessed	Google analytics will track number of times the URL within the SMS is clicked on

Thanks for your completing your survey. You have earned $10 in GiftPay credit.

If you would like more information about young people's mental health we suggest you check out the following information and resources:

Black Dog Institute: resources and support tools

ReachOut: self-care strategies and mental health info

If you are currently feeling distressed, we strongly encourage you to seek help. We think it'd be great if you could tell a trusted adult (e.g., parent, teacher, or doctor) about how you're feeling.

You can also visit a Headspace centre to chat with someone or get more info – it's a **free** service for young people 12 – 25 and their families and friends. If there isn't a headspace centre near you, you can get online chat and telephone support through eheadspace.

For immediate, 24/7 support:

Kids Helpline | Kids Helpline | 1800 55 1800

Lifeline Australia | Lifeline Chat | 13 11 14

Beyond Blue | Beyond Blue chat | 1300 22 4636

Suicide Call Back Service | Online Counselling | 1300 659 467

Some people may have suicidal thoughts when things are too hard and painful. If you feel like life is no longer worth living, it's really important to seek immediate help. With help, you can overcome these thoughts and stay safe.

If you feel in danger or that you might hurt yourself, please call **Emergency Australia – 000**

References

American Psychiatric Association. (n.d). *Online Assessment Measures.*

https://www.psychiatry.org/psychiatrists/practice/dsm/educational-

resources/assessment-measures

Batterham, P. J., Sunderland, M., Carragher, N., Calear, A. L., Mackinnon, A. J., & Slade, T. (2016). The Distress Questionnaire–5: population screener for psychological distress was more accurate than the K6/K10. *Journal of clinical epidemiology, 71*, 35–42.

Batterham, P. J., Sunderland, M., Slade, T., Calear, A. L., & Carragher, N. (2018). Assessing distress in the community: psychometric properties and crosswalk comparison of eight measures of psychological distress. *Psychological Medicine, 48*(8), 1316–1324. https://doi.org/10.1017/S0033291717002835

Extremera, N., & Fernández-Berrocal, P. (2006). Validity and reliability of Spanish versions of the ruminative responses scale-short form and the distraction responses scale in a sample of Spanish high school and college students. *Psychological Reports, 98*(1), 141–150.

Goldberg, S. B., Baldwin, S. A., Riordan, K. M., Torous, J., Dahl, C. J., Davidson, R. J., & Hirshberg, M. J. (2021). Alliance With an Unguided Smartphone App: Validation of the Digital Working Alliance Inventory. *Assessment*, 10731911211015310. https://doi.org/10.1177/10731911211015310

Gullone, E., & Taffe, J. (2012). The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA): A psychometric evaluation. *Psychological Assessment, 24*(2), 409–417. https://doi.org/10.1037/a0025777

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy research, 16*(1), 12–25.

Haver, A., Akerjordet, K., Caputi, P., Furunes, T., & Magee, C. (2015). Measuring mental well-being: A validation of the short Warwick-Edinburgh mental well-being scale in Norwegian and Swedish. *Scandinavian journal of public health, 43*(7), 721–727.

He, J., Liu, Y., Cheng, C., Fang, S., Wang, X., & Yao, S. (2021). Psychometric Properties of the Chinese Version of the 10-Item Ruminative Response Scale Among Undergraduates and Depressive Patients. *Frontiers in psychiatry, 12*, 626859–626859. https://doi.org/10.3389/fpsyt.2021.626859

Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of counseling psychology, 36*(2), 223.

Hunter, S. C., Houghton, S., & Wood, L. (2015). Positive mental well-being in australian adolescents: Evaluating the Warwick-Edinburgh mental well-being scale. *The Educational and Developmental Psychologist, 32*(2), 93-104.

Jacob, K. L., Christopher, M. S., & Neuhaus, E. C. (2011, Nov). Development and validation of the cognitive-behavioral therapy skills questionnaire. *Behav Modif, 35*(6), 595-618. https://doi.org/10.1177/0145445511419254

Johnson, J. G., Harris, E. S., Spitzer, R. L., & Williams, J. B. (2002). The patient health questionnaire for adolescents: validation of an instrument for the assessment of mental disorders among adolescent primary care patients. *Journal of Adolescent Health, 30*(3), 196-204.

Johnson, S. E., Lawrence, D., Sawyer, M., & Zubrick, S. R. (2018). Mental disorders in Australian 4-to 17-year olds: Parent-reported need for help. *Australian & New Zealand Journal of Psychiatry, 52*(2), 149-162.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine, 16*(9), 606-613.

MacDermott, S. T., Gullone, E., Allen, J. S., King, N. J., & Tonge, B. (2010). The emotion regulation index for children and adolescents (ERICA): A psychometric investigation. *Journal of Psychopathology and Behavioral Assessment, 32*(3), 301-314.

Meadows, G., Harvey, C., Fossey, E., & Burgess, P. (2000). Assessing perceived need for mental health care in a community survey: development of the Perceived Need for Care Questionnaire (PNCQ). *Social psychiatry and psychiatric epidemiology, 35*(9), 427-435.

Mojtabai, R., Olfson, M., Sampson, N. A., Jin, R., Druss, B., Wang, P. S., Wells, K. B., Pincus, H. A., & Kessler, R. C. (2011). Barriers to mental health treatment: results from the National Comorbidity Survey Replication. *Psychological Medicine, 41*(8), 1751-1761.

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of abnormal psychology, 100*(4), 569.

Ratcliffe, J., Couzner, L., Flynn, T., Sawyer, M., Stevens, K., Brazier, J., & Burgess, L. (2011). Valuing Child Health Utility 9D health states with a young adolescent sample: a

feasibility study to compare best-worst scaling discrete-choice experiment, standard gamble and time trade-off methods. *Appl Health Econ Health Policy, 9*(1), 15-27. https://doi.org/10.2165/11536960-000000000-00000

Ratcliffe, J., Stevens, K., Flynn, T., Brazier, J., & Sawyer, M. (2012). An assessment of the construct validity of the CHU9D in the Australian adolescent general population. *Quality of Life Research, 21*(4), 717-725.

Ringdal, R., Bradley Eilertsen, M.-E., Bjørnsen, H. N., Espnes, G. A., & Moksnes, U. K. (2018). Validation of two versions of the Warwick-Edinburgh mental well-being scale among Norwegian adolescents. *Scandinavian journal of public health, 46*(7), 718-725.

Schnyder, N., Lawrence, D., Panczak, R., Sawyer, M. G., Whiteford, H. A., Burgess, P. M., & Harris, M. G. (2020). Perceived need and barriers to adolescent mental health care: agreement between adolescents and their parents. *Epidemiology and Psychiatric Sciences, 29*, e60, Article e60. https://doi.org/10.1017/S2045796019000568

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of internal medicine, 166*(10), 1092-1097.

Stevens, K. (2009). Developing a descriptive system for a new preference-based measure of health-related quality of life for children. *Quality of Life Research, 18*(8), 1105-1113.

Stevens, K., & Ratcliffe, J. (2012). Measuring and valuing health benefits for economic evaluation in adolescence: an assessment of the practicality and validity of the child health utility 9D in the Australian adolescent population. *Value in health, 15*(8), 1092-1099.

Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J., & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh mental well-being scale (WEMWBS): a Rasch analysis using data from the Scottish health education population survey. *Health and Quality of life Outcomes, 7*(1), 1-8.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes, 5*(1), 1-13.

Tiirikainen, K., Haravuori, H., Ranta, K., Kaltiala-Heino, R., & Marttunen, M. (2019, Feb). Psychometric properties of the 7-item Generalized Anxiety Disorder Scale (GAD-7) in a large representative sample of Finnish adolescents. *Psychiatry Res, 272*, 30-35. https://doi.org/10.1016/j.psychres.2018.12.004

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive therapy and research, 27*(3), 247-259.

Xavier, A., Cunha, M., & Pinto-Gouveia, J. (2016). Rumination in adolescence: the distinctive impact of brooding and reflection on psychopathology. *The Spanish journal of psychology, 19*.