


BMJ Open Effectiveness of an online intervention for parents/guardians of children aged 4–7 years who are concerned about their child's emotional and behavioural development: protocol for an online randomised controlled trial (EMERGENT study)

Daniel Frings,¹ Paula Reavey,² Jowinn Chew ,² Michael Leahy,² Clare Allabyrne,² Claudiu Herteliu^{2,3}

To cite: Frings D, Reavey P, Chew J, *et al*. Effectiveness of an online intervention for parents/guardians of children aged 4–7 years who are concerned about their child's emotional and behavioural development: protocol for an online randomised controlled trial (EMERGENT study). *BMJ Open* 2024;**14**:e083479. doi:10.1136/bmjopen-2023-083479

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<https://doi.org/10.1136/bmjopen-2023-083479>).

Received 20 December 2023
Accepted 08 February 2024



© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

For numbered affiliations see end of article.

Correspondence to

Dr Jowinn Chew;
chewj2@lsbu.ac.uk

ABSTRACT

Introduction The demand for resources to support emotional and behavioural development in early childhood is ever increasing. However, conventional interventions are lacking in resources and have significant barriers. The Embers the Dragon programme helps address the growing unmet need of children requiring support. The delivery of the current project seeks to help support parents, reduce the burden placed on pressed services (eg, Child and Adolescent Mental Health Services) and to help improve the emotional and behavioural development of children.

Methods and analysis This project aims to investigate the efficacy and acceptability of Embers on parenting and children's psychosocial outcomes. 364 parents/guardians of children aged between 4 and 7 will be recruited via the internet, schools and general practitioners (GPs). This is an online waitlist-controlled trial with three arms: (1) control arm, (2) access to Embers arm and (3) access to Embers+school. Participants will be randomised (1:1) into (1) or (2) to evaluate the use of Embers at home. To evaluate scalability in schools, (3) will be compared with (2), and (1) to test efficacy against treatment as usual (not receiving the intervention). Qualitative interviews will also be conducted. Primary outcomes are the Parental Self-efficacy Scale, Strengths and Difficulties Questionnaire and qualitative interviews. Outcomes will be compared between the three groups at baseline, 8, 16 and 24 weeks.

Ethics and dissemination Ethical approval has been granted by the London South Bank University ethics panel (ETH2324-0004). To recruit via GPs, NHS ethical approval has been applied for, and the IRAS (331410) application is under consideration by the Central Bristol REC. The results of the project will be submitted for publication in a peer-reviewed journal. Parents/guardians will provide informed consent online prior to taking part in the study. For the interviews, assent will be taken from children by the researchers on the day.

Trial registration number ISRCTN58327872

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ A key strength of the project is the use of a mixed method (qualitative and quantitative) process evaluation to understand the intervention's mechanisms of action and participants' experience of the intervention.
- ⇒ Patient and public involvement work has been used throughout the development and design of the project to help ensure that all aspects are as relevant, meaningful and appropriate as possible for end users.
- ⇒ This trial is only available to English-speaking participants with access to a computer/internet.
- ⇒ Given the nature of the study and data collection, participants will not be blinded to their condition allocation, and the research team will not be blinded to participant allocation for the purpose of data completion requests.

INTRODUCTION

Mental health issues in early childhood are a prevalent and ever-growing problem, further exacerbated by the COVID-19 pandemic.^{1–4} Approximately one in six children (4–5 to 16–19 years old) in the UK experience mental health issues, which refer to any patterns and/or changes to their emotional and behavioural development that causes distress or interferes with their daily lives.^{1 5 6} Despite this, children and young people's access to mental health support has deteriorated significantly since 2020/2021.^{1 5 7 8} Mental health services currently offered to address children's mental health face financial and logistical barriers to provision at scale.^{2 3 5 7 8} This increases the likelihood of medium and long-term detrimental

impacts on individuals and society.^{3 7} Increasing access to early interventions that can be delivered at home and schools could considerably improve longer term health, well-being and societal function for children, as well as aid already overburdened services (eg, Child and Adolescent Mental Health Services; CAMHS), and help to support schools and parents/guardians.⁹⁻¹¹

The Embers the Dragon programme was designed to provide an accessible, affordable intervention to help address the growing unmet need for children's mental health support. It is a psychoeducation digital platform developed to support parents/guardians, children aged 4-7 and schools in developing emotional well-being in early years. The programme is based on social learning theory¹² and uses activities focusing on modelling and reinforcement to encourage parent-supported development of social-emotional skills in children. One of the key features of the programme is a series of animated stories which follow the adventures of Embers and his friends as they explore the common challenges of childhood. Along with each animated story, the platform also offers psychoeducation videos and other resources for parents/guardians that cover topics such as child development, modelling, reinforcement and parent management techniques for behaviours of concern. To support schools, the programme offers lesson plans and classroom resources which can be distributed to a whole class, small group or 1:1 approach.

The results of a feasibility study for trialling the platform revealed that 98% of parents/guardians reported a significant improvement in their self-assessed parental effectiveness and confidence in responding to their children's emotional needs.¹³ Qualitative feedback also demonstrated that children were able to successfully recall coping strategies highlighted in the programme.¹³ Building on these findings, the current randomised controlled trial aims to evaluate the accessibility, efficacy and acceptability of the platform in real-world use, and to prepare for commercialisation. The main objectives of the project are the following:

- ▶ Deliver a pragmatic trial to establish real-world efficacy and acceptability of Embers by measuring impacts on (1) parenting style, confidence and effectiveness, and (2) children's psychosocial development, when delivered in both home and school settings.
- ▶ Via a comprehensive and mixed method process evaluation, examine in detail the context and lived experience of the intervention.
- ▶ To explore if the impact of the intervention varies as a function of (1) usage patterns and (2) user profile.
- ▶ To examine the health economic impacts of the intervention.

METHODS AND ANALYSIS

Study design

The current project is a waitlist-controlled pragmatic field trial with three arms: (1) a control arm comprising treatment as usual (TAU), (2) access to Embers arm and

(3) access to Embers+schoolplan. Participants will be randomised into (1) or (2) to evaluate the use of Embers in a home, parent-led setting. To evaluate scalability in school settings, we will also recruit a (non-randomised) sample of classes from schools to receive the intervention to compare (3) to (2) to test the impact of the added school content and setting and (1) to test efficacy against TAU. The primary outcomes for the current study are the Parental Self-efficacy Scale (PSOC; Johnston and Marsh, 1989),¹⁴ Strengths and Difficulties Questionnaire (SDQ; Goodman, 1999)¹⁵ and the qualitative interviews. The secondary outcomes for the current study are EQ-5D-3L (Herdman *et al*, 2011)¹⁶ and data collected to examine access and duration usage of the Embers app, user acceptability, parent engagement and health economic status. The study settings are in home environments (home, control conditions) and in primary school and home environments (school condition).

Study status

Recruitment for the study started in November 2023 via expressions of interest. No participants have consented at the time of this protocol submission. Recruitment to the study is expected to be open until December 2024, and the follow-up measures until March 2026.

Participant identification

Eligible participants will be identified via four channels: social media, schools, general practitioners (GPs) and third sector and community sites.

Social media channel

Recruitment materials will be posted on various social media platforms, including Facebook, X, TikTok, Instagram, etc. Interested individuals will be directed to the study landing page, which will include key info about the study, contact details of the research team, link to the screening questionnaire and consent form (see online supplemental material 1).

School channel

Collaborating schools in London, the Southeast and Yorkshire regions will distribute study brochures to parents/guardians of children that fall in the target age range (4-7 years old), which will direct them to the study landing page. The schools, as well as parents/guardians, are told that all children in the collaborating school will have access to the platform in the classroom, but only those parents/guardians who consent to take part in the project will be invited to provide data for the evaluation.

GP channel

Collaborating GPs based in London, the Southeast and Yorkshire will identify parents/guardians of children that fall in the target age range from electronic database searches of their clinical systems. Following this, GPs will distribute study brochures to these individuals, which will direct them to the study landing page.

Third sector and community site channel

Similar to the approach taken via the social media channel, recruitment materials will be posted on various third sector and community platforms, including Young-Minds, Little Lives, Mumsnet, Family Rights Group, etc. Interested individuals will be directed to the study landing page.

Screening process

All individuals will be screened against the following inclusion and exclusion criteria:

Inclusion criteria

- ▶ Parents/guardians of children aged 4–7 who are concerned about their children’s mental/emotional well-being, including both those who are and are not already actively seeking professional support.
- ▶ Parents/guardians of children who will receive the Embers intervention in a school setting (school condition only).
- ▶ Both parent and child fluent in English.
- ▶ Access to a platform-compatible digital device.
- ▶ Willingness to complete follow-up measures.

Exclusion criteria

- ▶ Previous experience with the Embers programme.
- ▶ Currently undergoing a treatment intervention with CAMHS or social care.
- ▶ Shares parenting/caring duties for the same child for which a parent/guardian is already recruited.
- ▶ Already recruited to the study in relation to a different child.
- ▶ Previous involvement in Patient and Public Involvement and Engagement (PPIE) work associated with Embers.

Randomisation

Participants will be randomised to either the control arm or access to Embers arm stratifying by age and gender of the child using block randomisation. To achieve this, the *blockrand* command from the *blockrand* R package was used. The block size was randomised between 1 and 4, and 68 slots per stratification permutation generated. The randomisation ratio is 1:1 between the access at home and control conditions. Children in the school condition will not be randomised.

Participants in the access to Embers+schoolplan arm are not randomised.

Participant timeline

Participant flow through the study is shown in [figure 1](#). Participants recruited via the social media or the third sector community site channels will access the screening survey via a link on the study landing page. Participants recruited via schools and GPs will access the screening survey via a QR code on the study brochure. Once eligibility has been confirmed, participants will complete the consent form online via Qualtrics (see online supplemental material 1). Once consent has been attained,

participants will be randomised to either the access to Embers arm or the control arm. The access to Embers arm (school condition) comprised participants who were recruited via schools and are not randomised. Participants are asked to complete a series of surveys online at four time points (baseline, 8 weeks, 16 weeks and 24 weeks). Additionally, participants in the access to Embers arm, and access to Embers (school condition) arm are invited to take part in an interview to examine their lived experiences of using the Embers programme. These interviews will be conducted either face to face or online.

Sample size calculation

We will aim to recruit $n=364$ completed cases. Pilot feasibility work revealed an effect size of $d=0.51$ (a medium effect size, equivalent to effect size $f=0.26$) between premeasures and postmeasures in the intervention group in parental confidence and no difference over time in the control. In the current study, a sample of $n=364$ allows detection of within/between interactions in repeated measures analysis of variance at $f>0.07$ (ie, small effect size interactions) as well as comparisons within such an analysis between any one-time point at any two conditions at $f=0.17$ (a small-medium effect size). Power calculations were calculated at $\alpha=0.05$ and power=0.90 using GPower V.3.1. A previous attrition rate of 14% between consent ($n=129$) and the final follow-up point ($n=111$) was observed in our feasibility work. As we are targeting a community sample, including from seldom heard populations, we anticipate that this rate may increase to around 33%. Thus, to reach the final sample of $n=364$ will require us to consent 543 parents/guardians.

Outcomes

[Table 1](#) shows all the measures and when they are completed.

Primary outcomes

Parental Self-efficacy Scale

The PSOC aims to measure parents’ perceived confidence in their parental skill in supporting their children. The measure comprises five items rated on a 5-point Likert scale. The items are summed to yield a total score, with higher scores indicating higher levels of parental self-efficacy (Johnston and Marsh, 1989).¹⁴

Strengths and Difficulties Questionnaire

The SDQ aims to assess the behaviours, emotions and relationships of children and young people (aged 4–17 years) over the past 6 months. The scale comprised 25 items, divided between five scales (emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and prosocial behaviour). Lower scores on the emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problem scales indicate a lower level of difficulty, whereas scoring is reversed for the prosocial behaviour scale, with higher scores indicating lower levels of difficulty (Goodman, 1997).¹⁷

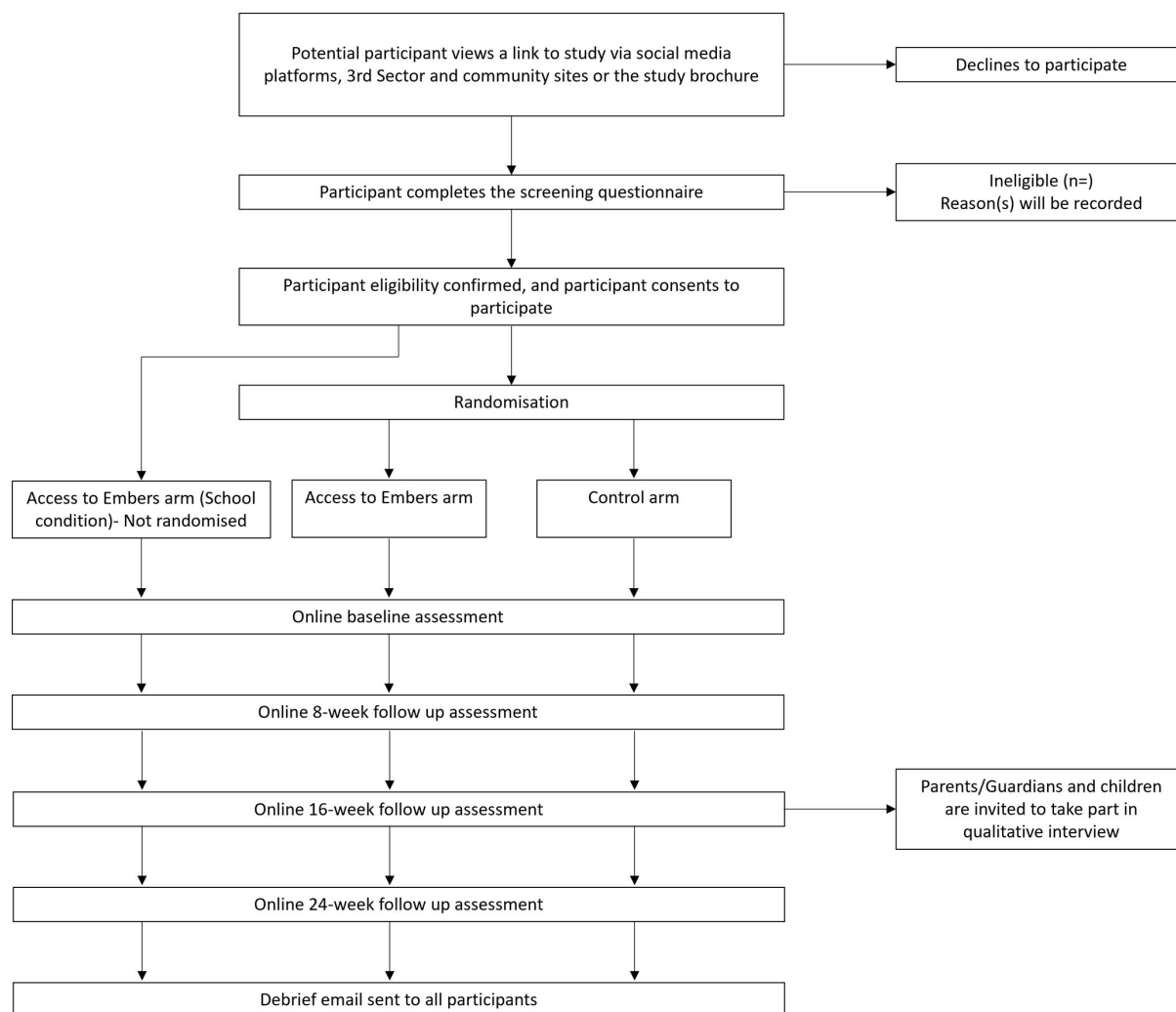


Figure 1 Participant progress through the study.

Qualitative interviews

Interviews with parents/guardians and children will be conducted face to face or online to explore the lived experience of the intervention. These interviews will use a visual-qualitative technique involving images and video excerpts from Embers relating to key characters and storylines. The visual element is part of an elicitation technique to help prompt and facilitate thought and memory recall (Reavey, 2020).¹⁸

Secondary outcomes

Parenting Scale

The Parenting Scale aims to assess parental discipline responses over the last 2 months. The measure comprised 30 items rated on a 7-point Likert scale. These items are divided into three subscales (laxness, over-reactivity and verbosity). Lower scores indicate good parental responses, and high scores indicate dysfunctional parental responses (Arnold, O'Leary, Wolff and Acker, 1993).¹⁹

Health Questionnaire (EQ-5D-3L)

The EQ-5D-3L is a widely used survey which assesses health-related quality of life. The measure comprised

six subscales (mobility, self-care, usual activities, pain, discomfort and anxiety/depression). Individuals rate their level of problems for each scale (no problems, moderate problems and severe problems). Additionally, the measure includes a visual analogue scale where the highest endpoint is labelled as 'The best health you can imagine' (100 points) and the lowest as 'The worst health you can imagine' (0 point) (Herdman *et al*, 2011).

Health Impact Survey

Participants will be asked to indicate what impact their child's mental health has had on various aspects of the parents/guardians' (and their families) lives. The impact survey comprised three questions: (1) how many attendances to the GP, family school liaison and social services have you made resulting from concerns over your child's mental health? (2) details of any other interventions used (if any)? and (3) an estimate of any additional financial cost associated with managing your child's mental health (eg, including loss of time at work, appointment travel or additional care)?. This information will be used for a sensitivity analysis to control for any differences between

Table 1 Schedule of study measures

Outcome measure	Study stage			
	Baseline	Week 8	Week 16	Week 24
PSOC	X	X	X	X
SDQ	X	X	X	X
Qualitative interviews			X	
PS	X	X	X	X
EQ-5D-3L	X	X	X	X
Health Impact Survey	X	X	X	X
Needs and Hopes Questionnaire	X	X	X	X
Access and duration usage				X
Programme component usage				X
Parent engagement data	X			X

EQ-5D-3L, Health Questionnaire; PS, Parenting Scale; PSOC, Parental Self-efficacy Scale; SDQ, Strengths and Difficulties Questionnaire.

the three conditions (control arm, access to Embers arm and access to Embers+schoolplan arm) at baseline, and for a health economic evaluation.

Needs and Hopes Questionnaire

Participants will be asked to indicate what led them to enrol in the study and what they hope to achieve by using the Embers platform. The Needs and Hopes Questionnaire comprised three questions: (1) what do you think are your child's main needs at the moment which you might want to focus on supporting, (2) what do you hope will be different after using the Embers platform and (3) what areas do you most want to work on? This information will be used to explore the lived experience of the intervention. Participants in the control arm will only be administered the first question, while participants in the access to Embers arm and access to Embers+schoolplan arm will be administered all three questions.

Access and duration of usage

How participants engage with the platform (eg, number of logins, time spent during each login) will be measured and used to inform a sensitivity analysis to control for any differences between the access to Embers arm and access to Embers+schoolplan arm, and to assess how individuals interact with the platform.

Programme component usage

How participants engage with the content offered on the platform (eg, the number of episodes watched, and exercises accessed) will be measured and used to inform a sensitivity analysis to control for any differences between the access to Embers arm and access to Embers+schoolplan arm.

Parent engagement data

Parent engagement data will be used to inform the sensitivity analysis to control for any differences between the three conditions (control arm, access to Embers arm and access to Embers+schoolplan arm). This includes: (1) hours spent playing with children, (2) hours spent reading with children, (3) average time (hours) of shared TV watching per week and (4) number of meals shared per week.

Data analysis plan

Preparatory checks and approaches

Success of randomisation stratification (age and gender) will be checked. If it has not been successful, the failed variable(s) will be included as covariates as an adjusted analysis. Where possible, bootstrapping approaches will be used to account for potential skew, kurtosis or outlying scores. Missing data will be coded as such, and partial cases will be used where the partial data allow for inclusion in each analysis. The primary outcome analysis will be on an intention-to-treat basis (all participants, as randomised). Deviations from the final statistical analysis plan will be described as exploratory or deviations from the plan.

Primary outcome analysis

Differences between conditions, across time among primary outcomes, will be tested using a restrictive likelihood mixed effect model, with intervention condition and time as fixed effects and school and participant as random effects. We will focus on within differences at 24 weeks as the primary difference of interest.

Sensitivity analysis of primary analyses

We will undertake both intention to treat and sensitivity analysis, including checking effects excluding protocol violators. Protocol violations may include (but are not limited to) the following:

- ▶ Inclusion/exclusion criteria not met.
- ▶ Participants having not completed the two-core modules (titled 'Introduction' and 'Positive Attention') of the Embers programme by 24 weeks.

If any violation occurs during the study, these will be documented and reported to the sponsor and trial steering committee.

Secondary analysis

Secondary analyses will compare if responses from families who chose to use all parts of the intervention versus just the episodes differ in levels of change. This will allow us to positively identify the key 'active ingredients'. To explore the potential confounding impact of



trial effects (ie, being a child, whose parent has engaged with enrolling their child in the study programme), we use measured levels of parental engagement with children, joint TV viewing, etc, to allow sensitivity analysis to test if any present effects are as strong for children with engaged parents/guardians in the TAU group.

We will also conduct an analysis comparing the efficacy of the intervention (in terms of pre-post change) among different demographics to allow initial evaluation of the levels of health equity achieved. We will also produce a COHORT flow diagram.

Qualitative analysis

Given the visual element of this data collection is for elicitation purposes only, the qualitative visual and verbal data will be combined and analysed thematically, based on transcription of the verbal interview responses only. All data will be transcribed verbatim and subject to stringent coding using up to three team members to ensure reliability. Stringent coding refers to the recognised practice within the thematic analysis literature of analysing the data systematically (ie, line by line). This coding will also be cross-checked with each member of the research team. The aim will be to examine common patterns of sense making across the data sets, thematically analyse children's data separately from parental data and then combine the data sets to explore common themes. The analysis will be steered by the theoretical domains framework to investigate any barriers or facilitators of implementation relating specifically to user experiences reported in this qualitative element. This will also be triangulated by checking qualitative data against the quantitative outcome measures, to see if there is coherency between data sets, or to explore whether there are arising inconsistencies (eg, positive outcome measures but negative reports regarding user experience).

Economic evaluation

Alongside the evaluation of the Embers platform in terms of mental health outcomes, a robust health economic benefits evaluation is essential to inform future funders and decision-makers and to support the estimated impact of scaling up the intervention. The overall aims of our health economic evaluation package are to (1) estimate the monetary cost per unit of identified health outcome improvement, (2) examine wider cost implications (ie, savings made elsewhere, such as fewer workdays missed for appointments at parenting classes, fewer GP appointments, etc), (3) differentiate the cost benefits deploying at home versus home and school and (4) provide comparative data in a way that can be examined in relation to the cost-effectiveness of other interventions. Specifically, we will measure occurrences of self-reported GP, school-family liaison and social service appointments by arm, including estimates of mental health-related indirect/out-of-pocket expenses incurred by families. These will be combined with direct delivery cost information, plus estimates of downstream savings related to the outcome

benefits realised. We will also measure quality of life using the EQ-5D-3L (a standard measure of quality of life). Data will be collected from the same sample who undertake the evaluation (in both intervention arms and control arm). As this is an area of specialist expertise, we will appoint a health economist to the team who, in consultation with the PPIE group, will finalise the measures taken and undertake the resulting analysis.

Patient and public involvement

Patient and public involvement (PPI) is extensive and fully integrated into the project design, including recruitment, methodology, animation and resource development, testing, promotion and dissemination. All programme content was developed with PPI groups to ensure that they are relevant, meaningful and appropriate. Additionally, all process evaluation materials will be developed in collaboration with PPI groups and piloted. Inclusive and representative parent/carer and child involvement was imperative to the development of the study by ensuring that key themes and content developed are reflective of the needs and points raised by the community they are designed to support.

ETHICS AND DISSEMINATION

Ethical considerations

Ethical approval has been granted by the London South Bank University ethics panel (ETH2324-0004), which covers all aspects of the study except for recruitment via GPs. To recruit participants via GPs, NHS/HRA ethical approval has been applied for, and the IRAS (331410) application is currently under review by the Central Bristol REC. Informed consent will be obtained from all parents/guardians before participating in the trial (see online supplemental material 1), and all individuals will have the opportunity to ask any questions about the study before deciding to take part. Children aged 4–7 years will not provide their consent to take part in the trial, as they do not provide any data beyond intervention usage data. To take part in the qualitative interviews, informed consent will be obtained from all parents/guardians (see online supplemental material 2). Children aged 4–7 years will be asked to provide assent on the day of the interview by the researcher reading the assent form adapted from Simonoff E, Palmer M, Chandler S. 'Child Assent Form, aged 4–8'²⁰ aloud to the child (see online supplemental material 3). The whole interview will be recorded from the beginning. This approach is in line with the London South Bank University ethics panel recommendations.

Dissemination

Results will be disseminated in academic peer-reviewed journals and in platforms/formats that are accessible to the public.

Author affiliations

¹Division of Psychology, London South Bank University, London, UK

²London South Bank University, London, UK

³Bucharest University of Economic Studies, Bucuresti, Romania

Acknowledgements The authors thank the patient and public involvement (PPI) group and the trial steering committee (comprising Professor Felix Naughton, Dr Dennis Ougrin, Professor Ian Tucker and Dr Becky Inkster) for their ongoing support and input.

Contributors DF and PR: conceptualisation, methodology, validation, formal analysis, investigation, resources, data curation, writing—original draft, writing—review and editing, project administration. ML: development of interview schedule and technique. CA: conceptualisation, methodology, writing—original draft, writing—review and editing. JC: writing—original draft, writing—review and editing, project administration. CH: methodology, writing—review and editing. All authors reviewed and approved the manuscript in its current form.

Funding This work is supported by the NIHR i4i Connect programme awarded jointly to LSBU and Embers the Dragon (grant number: NIHR204516). Embers the Dragon administers the grant and subcontracts LSBU for the evaluation.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; peer reviewed for ethical and funding approval prior to submission.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Jowinn Chew <http://orcid.org/0000-0001-5169-6819>

REFERENCES

- Children's Commissioner. The state of children's mental health services 2020/21. 2021. Available: <https://www.childrenscommissioner.gov.uk/resource/mental-health-services-2019-20>
- Moss SJ, Mizen SJ, Stelfox M, *et al.* Interventions to improve well-being among children and youth aged 6–17 years during the COVID-19 pandemic: a systematic review. *BMC Med* 2023;21:131.
- Benton TD, Boyd RC, Njoroge WFM. Addressing the global crisis of child and adolescent mental health. *JAMA Pediatr* 2021;175:1108–10.
- Abrams Z. Kids' mental health is in crisis. Here's what psychologists are doing to help. American Psychology Association; 2023.
- Clark H, Day K, Royal P, *et al.* The mental health of children and young people; 2022.
- Waite P, Pearcey S, Shum A, *et al.* How did the mental health symptoms of children and adolescents change over early lockdown during the COVID-19 pandemic in the UK *JCPP Adv* 2021;1:e12009.
- Stem4. A-service-in-crisis-survey-reveals-GPs-concerns-about-mental-health-services-for-CYP-Apr-22. 2022. Available: <https://stem4.org.uk/wp-content/uploads/2022/04/A-service-in-crisis-Survey-reveals-GPs-concerns-about-mental-health-services-for-CYP-Apr-22.pdf>
- Rajgopal A, Li CR, Shah S, *et al.* The use of telehealth to overcome barriers to mental health services faced by young people from Afro-Caribbean backgrounds in England during the COVID-19 pandemic. *J Glob Health* 2021;11:03040.
- Camden C, Silva M. Pediatric Telehealth: opportunities created by the COVID-19 and suggestions to sustain its use to support families of children with disabilities. *Phys Occup Ther Pediatr* 2021;41:1–17.
- Colizzi M, Lasalvia A, Ruggeri M. Prevention and early intervention in youth mental health: is it time for a multidisciplinary and trans-diagnostic model for care *Int J Ment Health Syst* 2020;14:23.
- Loades ME, Chatburn E, Higson-Sweeney N, *et al.* Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *J Am Acad Child Adolesc Psychiatry* 2020;59:1218–39.
- Bandura A. *Social learning theory*. Prentice-Hall, 1977.
- Selby E, Allabyrne C, Keenan JR. Delivering clinical evidence-based child–parent interventions for emotional development through a digital platform: a feasibility trial. *Clin Child Psychol Psychiatry* 2021;26:1271–83.
- Johnston C, Mash EJ. A measure of parenting satisfaction and efficacy. *J Clin Child Psychol* 1989;18:167–75.
- Goodman R. The extended version of the strengths and difficulties questionnaire as a guide to child psychiatric Caseness and consequent burden. *J Child Psychol Psychiatry* 1999;40:791–9.
- Herdman M, Gudex C, Lloyd A, *et al.* Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Qual Life Res* 2011;20:1727–36.
- Goodman R. The strengths and difficulties questionnaire: a research NOTE. *J Child Psychol Psychiatry* 1997;38:581–6.
- Reavey P, ed. *A Handbook of Visual Methods in Psychology: Using and Interpreting Images in Qualitative Research*. Routledge, 2020.
- Arnold DS, O'Leary SG, Wolff LS, *et al.* The parenting scale: a measure of dysfunctional parenting in discipline situations. *Psychol Assess* 1993;5:137–44.
- Simonoff E, Palmer M, Chandler S. Child assent form, aged 4–8 years. King's College London, IAMHealth; 2016.



EMERGENT: Evaluating embers: Digitally supporting children's mental health

CONSENT FORM

Name of Researcher:

If you agree, please initial box

I confirm that I have read the information sheet dated xxx (version xxx) for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I have discussed the research with my child, and they agree to take part and understand they can stop using Embers at any time.	
I understand that the Embers programme aims to support children who experience mild to moderate issues with their mental wellbeing, and if I have concerns about their wellbeing, I will speak to my GP about these.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I understand that app usage data will be collected for the purposes of research.	
I agree to take part in this study.	
I agree to be contacted about the opportunity to take part in an interview with me and my child about our experience.	
I understand that anonymous data generated by the study will be retained in accordance with the University's Code of Practice for 5 years by London South Bank University, and indefinitely in the LSBU Open Research and Open Science Framework data repository.	
I understand that if me and my child decide to take part in the study that we are still free to withdraw at any time (up to the point the results are written up, estimated as June 2025).	

Parents & Guardians Trial Consent Form
 IRAS Project Number: 331410
 Version 3.0

1



Name of Participant

Date

Signature

To find out more about the study, please contact the research team at emergent@lsbu.ac.uk, or using the contact details below:

Co-principle investigators:

Prof Daniel Frings

fringsd@lsbu.ac.uk

Prof. Paula Reavey

reaveyp@lsbu.ac.uk

Research Fellow:

Dr Jowinn Chew

chewj2@lsbu.ac.uk

As stated in the information sheet, if you and your child decide to take part you are still free to withdraw at any time without providing a reason. If you have concerns about the ethical conduct of the study, you should contact the School of Applied Science Ethics committee (SASethics@lsbu.ac.uk).

Parents & Guardians Trial Consent Form
IRAS Project Number: 331410
Version 3.0
2



If the participant agrees to all the statements, they are then presented with the following questions and statement (in the same Qualtrics survey):

- Please provide your full postcode

- Please provide your email address

- Please confirm the age of your child

- Please confirm the gender of your child

- Thank you for taking the time to read through the information carefully.
You will be contacted shortly by a member of the research team (via email) to complete the baseline measure. Please complete this as soon as possible.
In the meantime, if you have any questions, please contact the research team at emergent@lsbu.ac.uk, or using the contact details below:

Co-principle investigators:

Prof Daniel Frings

fringsd@lsbu.ac.uk

Research Fellow:

Dr Jowinn Chew

chewj2@lsbu.ac.uk

Parents & Guardians Trial Consent Form
IRAS Project Number: 331410
Version 3.0

3



Prof. Paula Reavey

reaveyp@lsbu.ac.uk



If you feel that you would like to speak to someone, Relate, a UK charity, offers counselling support and has several centres across the UK. More information on their services is available on their website: <https://www.relate.org.uk/>. You can also contact YoungMinds, a UK charity focusing on children and young people's mental health at their website: <https://www.youngminds.org.uk/>, and ChildLine on their website: <https://www.childline.org.uk>.

Parents & Guardians Trial Consent Form
IRAS Project Number: 331410
Version 3.0
4



If the participant does not agree to all the statements, they are then presented with the following statement (in the same Qualtrics survey):

- Thank you for taking the time to read through the information sheet carefully. Unfortunately you cannot take part in the research study unless you consent to all of the statements provided. To find out more about the study, please contact the research team at emergent@lsbu.ac.uk, or using the contact details below:

Co-principle investigators:

Prof Daniel Frings

fringsd@lsbu.ac.uk

Prof. Paula Reavey

reaveyp@lsbu.ac.uk

Research Fellow:

Dr Jowinn Chew

chewj2@lsbu.ac.uk

If you feel that you would like to speak to someone, Relate, a UK charity, offers counselling support and has several centres across the UK. More information on their services is available on their website: <https://www.relate.org.uk/>. You can also contact YoungMinds, a UK charity focusing on children and young people's mental health at their website: <https://www.youngminds.org.uk/>, and ChildLine on their website: <https://www.childline.org.uk>.

Parents & Guardians Trial Consent Form
IRAS Project Number: 331410
Version 3.0
5



EMERGENT: Evaluating embers: Digitally supporting children’s mental health

CONSENT FORM

Name of Researcher:

If you agree, please initial box

I confirm that I have read the information sheet dated xxx (version xxx) for this study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I agree to take part in an interview as a parent/caregiver participant.	
I agree that my child(full name of child) may take part in an interview.	
I understand that participation is voluntary and that myself or my child are free to withdraw at any time without giving any reason.	
I agree to the interview being audio-recorded.	
I agree to the use of anonymised quotes in research reports and publications.	
I understand that anonymous data generated by the study will be retained in accordance with the University's Code of Practice for 5 years by London South Bank University, and indefinitely in the LSBU Open Research and Open Science Framework data repository.	
I understand that if me and my child decide to take part in the study that we are still free to withdraw at any time (up to the point the results are written up, estimated as June 2025).	

 Name of Participant Date Signature

 Name of Person taking Consent Date Signature

Parents Interview Consent Form
 IRAS Project Number: 331410
 Version 3.0
 1



To find out more about the study, you can contact a member of the research team: chewj2@lsbu.ac.uk, or the study's co-principal investigators: Prof. Daniel Frings (fringsd@lsbu.ac.uk) and Prof. Paula Reavey (reaveyp@lsbu.ac.uk). If you have concerns about the ethical conduct of the study, you should contact the School of Applied Sciences Ethics committee (SASethics@lsbu.ac.uk).

If you feel that you would like to speak to someone further about any issues arising from the interview - Relate, a UK charity, offers counselling support and has several centres across the UK. More information on their services is available on their website:

<https://www.relate.org.uk/>. You can also contact YoungMinds, a UK charity focusing on children and young people's mental health at their website: <https://www.youngminds.org.uk/>, and ChildLine on their website: <https://www.childline.org.uk>.



EMERGENT: Evaluating embers digitally supporting children's mental health

Child Assent Form

Participant ID:

Researcher Name:

Researcher Signature:

Child's name:

Date:

Emergent Study Contact Details:

emergent@lsbu.ac.uk

Do you have any questions?

Tell us what they are.



Has someone talked to you about the study?

YES

NO

Do you agree to take part?

YES

NO

Do you know that you can stop at any time?

YES

NO

Child assent form for interviews
IRAS Project Number: 331410
Version 2.0