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Mental Health - Practices & Assessment: Episode 2

Designing and Evaluating Mental Health Apps for Children

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The Eda app

- Emotion regulation app for children
- Co-design and development
- Implementation and evaluation





Where we meet...



Technology

Explore relevant theory and evidence to ensure best choice of intervention Identify components of intervention and underlying change mechanism, which are expected to influence outcome

Modeling

Identify constant and variable components of a replicable intervention Compare a fully defined intervention with an appropriate alternative in a controlled study with adequate power Determine whether others can replicate intervention and results in an uncontrolled setting

Theory

Exploratory trial

Randomized-control trial

Long-term implementation

	Sta	ge I: Theory		Stage II: Modeling		Stage III: Exploratory trial		
Objectives	 Understand problem and context Involve users in design process Identify existing evidence Identify key components of logic model Generate ideas for basic wireframes 			 Involve children and practiti Accommodate different des Review and adjust wirefram Test, develop, adjust low- adju	sign goals nes	 Evaluate acceptability and usability Explore use in classroom context Improve and optimize app intervention Explore facilitators and barriers to evaluating app within classroom 		
	Public engagement events analysis		Systematic review and meta- analysis	Co-design workshops Prototype testing		InterviewsSurveys		
Research team	Classroom observations	Organizing workshops	Combing and mediating feedback from stakeholders	Facilitating idea generation, adjustment, and iterative re- design	Combing and mediating feedback from stakeholders	Classroom observations	Interviews	
Users	Public engagement events			Co-design workshops	Prototype testing	InterviewsSurveys		
Clinicians	Workshops to gather feedback on content ideas			Workshops to gather feedback	on content ideas			
Teacher/School	Classroom observations			Co-design workshops	Prototype testing	Classroom observations	Interviews	
App developer/Desi gner	Idea generation workshop			Idea generation, adjustment	ts, and iterative redesign			
Outcomes	 Young preferences for MH app Logic model (draft) Systematic review and meta-analysis Ideas for games and modules Content of animation videos Wireframes 			 Finalizing animations Decision on low-tech prototype content Development of high- tech prototype 	 Testing of high-tech prototype Adjustments Trial ready prototype 	 Exploratory trial outcomes and learnings 		
Participants	 Young people (n=21) and Teachers Psychologists (n=7, male 1, female 6) Parents (n=4) App developer (n=1, male) and Designer (n=2, female) Researchers (n=7, male 1, female 6) 			 Children (n=48) and Teacher Psychologists (n=7, male 1, f App developer (n=1, male) a Emotion regulation research 	female 6) and Designer (n=1, female)	 Children interviews (n=19) Children surveys (n=132) Teachers (n=6) Researcher (n=2) 		

Logic mode

Age 10 – 12 years Accessible, universal or targeted, preventative Learn & practice emotion regulation strategies Pre-post change End of primary school In the moment support In-the-moment support Improved mental healt Needs emotion regulation support Relaxation & mindfulness Exercises to calm down Improved emotion-regulation Internalizing problems Psychoeducation Recognize "bursting point" Engagement & interaction adaptive strategies Prevent onset of mental health difficulties Games and interactive agent positive affect and shift attention bias towards positive Relieve stress App functionality Teacher engagement MODERATORS Understanding of the activities and numerse Assessment table	TARGET Who is the intervention for?		INTERVENTION What is the intervention	?		How ar	MECHANISMS nd why does rvention work?		Wh	OUTCOMES at difference will it make?
End of primary school Support Improved mental health Needs emotion Relaxation & Improved mental health regulation support Relaxation & Improved mental health Internalizing problems Psychoeducation Recognize "bursting point" Engagement & interaction Externalizing problems Helps to identify emotions and adaptive strategies Emotional awareness, understanding & knowledge Improved social & Prevent onset of mental health difficulties Games and interactive agent positive affect and shift attention bias towards positive Relieve stress	Age 10 – 12 years		-						Pre-p	ost change
regulation support mindfulness Internalizing problems Psychoeducation Externalizing problems Helps to identify emotions and adaptive strategies Games and interactive agent positive affect and shift attention bias towards positive App functionality Teacher engagement	End of primary school					In-the-mo	ment support		Impr	oved mental health
Internalizing problems Psychoeddcation Engagement of mental health difficulties Helps to identify emotions and adaptive strategies Emotional awareness, understanding & knowledge Improved social & academic skills Prevent onset of mental health difficulties Games and interactive agent positive affect and shift attention bias towards positive Relieve stress App functionality Teacher engagement MODERATORS Understanding of the Assessment						Exercises	to calm down		•	
Externalizing problems Helps to identify emotions and adaptive strategies understanding & knowledge academic skills Prevent onset of mental health difficulties Games and interactive agent positive affect and shift attention bias towards positive Relieve stress App functionality Teacher engagement MODERATORS Understanding of the Assessment	Internalizing problems		Psychoeducation			Recognize	"bursting point"		Engag	gement & interaction
App functionality Teacher engagement MODERATORS Understanding of the Assessment	Externalizing problems						,			
App functionality reacher engagement MODERATORS						attention bias towards			Relieve stress	
App functionality reacher engagement MODERATORS										
Factors that	App functionality Usability & acceptability		Teacher engagement Device availability				Understanding of the activities and purpose			ssessment pols
Osability & Device availability Children's engagement Implementation							Children's engagement		Ir	nplementation

What?	DO's	DON'Ts
Accessible	Across devices, financially, make it available offline	advertisement, in-app purchases, wifi/data needed
Engagement	Interactive, community, updates, tracking, games, give feedback	push notifications, dead website
Design	Customizable, age appropriate (incl. language, style), intuitive	childish, clunky, copy others
Data/Technology	Cloud, control your own data, security	too much data required, no control over data collected, crashes, too slow
Mental health	Teach and encourage skills Community	Information only
Modules	Relax (music, mindfulness, painting), distract (games)	Information only
Other	Sign-posting: Where can I get help? Suggest activities Editable	

Eda app examples





Breathe in 1 Seconds

Eda app examples



Evaluation



Exploratory trial in UK primary schools

- 4 UK primary schools (N=145)
- 12 weeks
- Class room observations
- Interviews
- Questionnaires





Findings & Learnings

Eda told them about strategies & gave them a chance to practice!

more songs and exercises to choose from & exercises to activate children!

Findings & Learnings

App development

- Get user insights
- UX design as important as content
- Implementation context important
- Meet Tweak Repeat

Implementation

- Be flexible: Every teacher is busy and works in a different way
- Implement before you implement
- Stay in touch with the teachers
- Most web-pages/apps need school approval
- Schools work from a range of devices

Engagement & Implementation & Sustainability

Recent estimates suggest approximately 10,000 to 22,750 mental health apps exist

Majority of downloaded apps not used after 2 weeks

Worldwide, the top 3 mood tracking apps are responsible for 79% of active users

Taxonomy of implementation outcomes

Sustainat (maintenan integratio		ance or	(spread	etration or "reach" of chnology)	(techn	doption ology uptake utilization)		
Cos (financial in techno implemen		mpact of blogy	(atte adher	igement ndance, ence and opout).	(imple	Fidelity mentation as itended)		
co-production user involvement lopment/evaluation)		Feasibility extent to which technology successfully used			priateness for purpose) (satisf	eptability action with a hnology)	

deve



Key questions from audience

- Are mental health apps effective?
- Where is the untapped potential?
- What solutions are there to tackle existing challenges?

Research and Presenters

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Research and Presenters

Please contact the presenters if you have any questions or would like to talk with them about their work:

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- Animator : Mair Perkins (//mairperkins.co.uk/)
- App developer: Chris Quinn
- Schools, teachers, parents, children
- Anna Freud National Centre (www.annafreud.org)
- National Children's Bureau
- University College London
- EU Horizon 2020 & Marie Sklodowska Curie

