

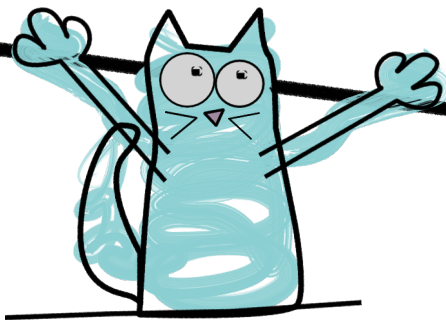


# **CaTS-App Report Briefing**

## **Findings from the Planning and Discovery Phase**

### **of our work with Professional Stakeholders and Youth**

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Researchers: Joanna Lockwood, Camilla Babbage, Lily Roberts (University of Nottingham)

Co-Investigators: Chris Greenhalgh (University of Nottingham), Marina Jirotko (University of Oxford)

Principal Investigator: Ellen Townsend (University of Nottingham)

## Introduction

Digital Youth is a 5-year UKRI funded research programme which aims to understand the complex risks and opportunities for mental health associated with young people's engagement with the digital world, exploring the relationships between digital risk, resilience and mental health, and generating new preventative and therapeutic interventions. The interdisciplinary project comprises eight work packages with cross cutting themes of responsible innovation, translational pathways, and young person's involvement. We recognise the importance of involving young people with lived experience in the research, design and development process, drawing on existing models around user-centered design and implementation science, and documenting our own approaches to involvement and engagement. Our work prioritises stakeholder engagement, understanding contextual factors, and adopting responsible research and innovation (RRI) practices.

### Work Package 8 – the CaTS-App

Work Package 8 has an overall aim to develop and test the feasibility and acceptability of a novel, card sort app (CaTS-App) that facilitates collaborative, compassionate, and holistic understanding, assessment and intervention for self-harm aimed at young people and those working with them.

#### Rationale for this project

Rates of self-harm and suicide among young people in the UK are rising and underscored by inadequacies in current support and treatment options. Improved understanding, identification and support for young people with self-harm thoughts and behaviours is a priority at a clinical and community level. Recent recommendations advocate for collaborative approaches to understanding, assessment and decision-making, acknowledging the need for flexibility in how and where discussions around young peoples' needs occur.

An existing research tool, CaTS (Card Sort Task for Self-harm) offers a potential way to facilitate collaborative understanding, assessment and decision-making in clinical and other settings. To explore this further, we are co-developing a digital prototype (CaTS-App) that can be used by a professional together with a young person to reach shared understanding of support needs.

We face 3 core challenges in our tool development:

- Meeting multiple stakeholder needs (young people, clinicians, practitioners, professionals).
- Delivering a structured evidence-based task within the parameters of a digital version.
- Understanding the implementation and sustainability context for diverse and complex clinical or community settings.

## CaTS-App Programme Phases



This programme of work is built around an early Planning and Discovery Phase (Phase 1) followed by a Design and Development Phase (Phase 2) and a final Feasibility and Testing Phase (Phase 3).

We have now completed the Planning and Discovery phase of our programme of work. This sought to provide us with foundational understanding through multiple approaches of how, where, when, and if CaTS and CaTS-App could be best implemented in support pathways for young people. We sought to understand attitudes towards CaTS and the appetite for CaTS-APP.

**Professional Stakeholders:** We conducted research activities, including surveys, interviews, focus groups, and workshops to understand the opinions of practitioner stakeholders in education, health and social care, industry, and the third sector on the scope, feasibility, and implementation of a prototype digital tool as a novel collaborative assessment and intervention tool for adolescent self-harm.

**Young people:** We ran a series of co-production workshops, both in person and online, with young people with lived experience to understand their views on CaTS and its development into a digital tool.

In this Brief Report we present an overview of findings from the Planning and Discovery Phase and implications from this work to inform Phase 2 (Design and Development).

## Professional Stakeholders

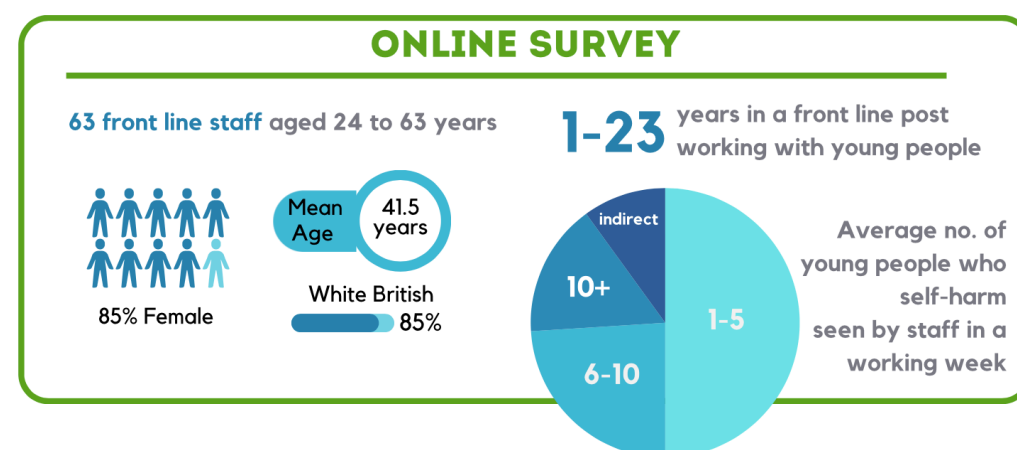
We captured the views of

- Frontline professionals in health and social care who work with young people who self-harm (such as CAMHS staff, GPs, clinicians, A&E care workers, social workers, support assistants).
- Education-based staff (such as teachers, MHSTs, EMHPs, school nurses, special educational needs officers, SENCOs) who support young people who self-harm.
- Industry and Third sector professionals (such as Harmless staff, charity volunteers, medical tech innovators).

We ran an online Stakeholder survey and invited participants to also sign up for follow up interviews and focus group. We aimed to understand how professionals are currently supporting young people who self-harm and their views on implementing CaTS as a paper based or digital tool to aid understanding and assessment of self-harm. We obtained ethics to conduct stakeholder surveys and interviews from the University of Nottingham Faculty of Medicine and Health Sciences (ref: FMHS210-0223).

## Stakeholder Survey

63 participants completed an anonymous survey which collected data from April 2023 until September 2023. The survey included a two-minute familiarisation video about CaTS to help participants understand the tool and possible implementation modalities.



Participants had held their posts from between 1 and 23 years with shorter lengths of service predominantly in the third sector. Some had only indirect contact with young people who self-harm on a weekly basis. Others had ranging levels of direct contact with around half of respondents supporting between 1 and 5 young people per week, and a quarter of respondents supporting between 6 and 10 young people per week.

## Survey Findings - existing practice

Professionals described facing increased and more complex presentations of self-harm. Numerous approaches to assessment were employed across settings from informal discussion up to formalised risk assessment and crisis planning tools. Some approaches used by healthcare clinicians (Chain Analysis, Outcomes Star) explored the multifactorial nature of risk. All approaches were judged to vary in effectiveness. Satisfaction scores were above the midpoint (6.57) signalling some satisfaction with current approaches.



## EXISTING ASSESSMENT AND INTERVENTION

### Triage and Assessment

Trauma Symptoms Checklist; GAD7; PHQ9; YP-CORE and CORE34; RCADS; Assessment Checklist for Adolescents; Outcomes Star; Chain analysis


Safety planning tools; LifeSIGNS guidance; Risk management and formulation approaches; Psychosocial assessment; Wales Applied Risk Research network; STORM tools

Own questions; informal discussion; local Trust's crisis plan and risk assessment

### Support

Mindfulness; Acceptance and Commitment based approaches; CBT models; Motivational Interviewing; Compassion-focused therapy; Brief Solution focused therapy; DBT; 5P Model of Formulation (presenting problem); Thrive Mental Wellbeing App; Skills coaching and grounding techniques

### Response

Referral to appropriate services 

## Survey Findings - what would help practice?

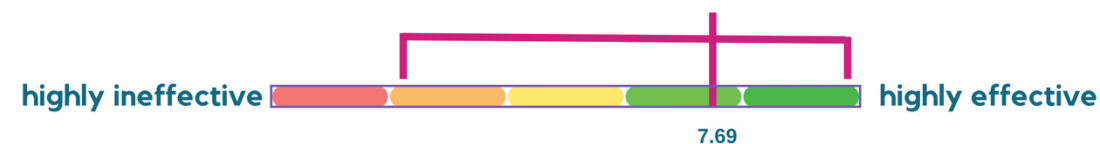
- Professionals identified wanting practical, simple, accessible applications and tools to promote effective discussions with young people and enhance shared understanding. They wanted tools which would support the delivery of NICE guidance i.e. which scaffold how to start and complete a comprehensive, compassionate collaborative assessment for self-harm.
- Training and psychoeducation for staff was seen a priority need, and critical for the delivery of CaTS.
- Tools that are structured yet flexible to support assessment of needs.
- Engaging, creative, interactive tools that appeal to youth.

- Tools that help young people communicate and articulate their story, whilst maintaining ownership of it.
- Tools which can be completed without spoken word would have wide value and be applicable for neurodiverse populations.

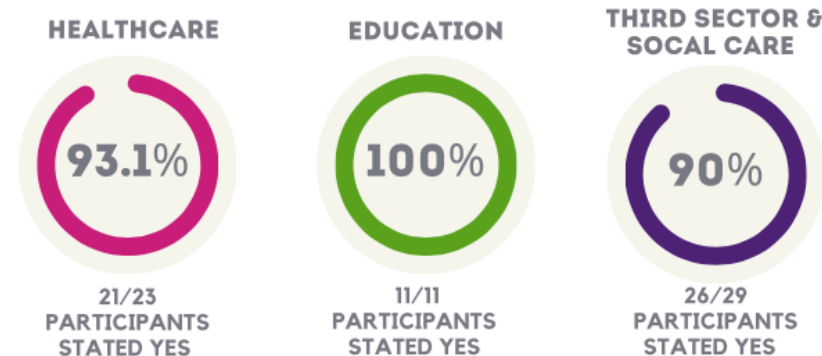


#### Survey Findings - thoughts about CaTS?

- On average respondents felt that CaTS would be a helpful addition to their practice.



#### Is there a need for a CaTS-App in your setting?



- Professionals felt the tool could offer young people validation and give a sense of normalisation. They saw value in YP being able to recognise their own experience in the experience of others.
- Professionals felt that the timeline and structure of CaTS would help facilitate discussion and reflection and enhance a young person's understanding and communication of their emotions and self-harming behaviour.
- Professionals liked the idea of a cross-profession tool which offers consistency of care.
- Staff had concerns that a digital version may lack the organic, interactive and intuitive nature of the manual card-sort. They questioned the effect a digital version could have on the therapeutic relationship.

"I think it will be helpful for young people to understand their self harm behaviours and begin to recognise patterns in their own thought patterns and behaviours"

"Having a tool which can help prompt them or start a conversation could be really beneficial."

"Important to ensure that the young person and professional understand the purpose and anticipated outcomes of CaTS...young people must feel there is benefit to using the tool"

- Staff questioned how they would use the tool in a time-efficient and safe manner and queried length of process. They questioned if the tool were suitable as a one-off brief assessment, or more suited for ongoing therapeutic support.
- They worried about access to devices, the need for internet connection and ongoing tech support, and the time required for training.
- Professionals highlighted that privacy and security must be highly integrated into the digital version.

#### Across all stakeholder settings

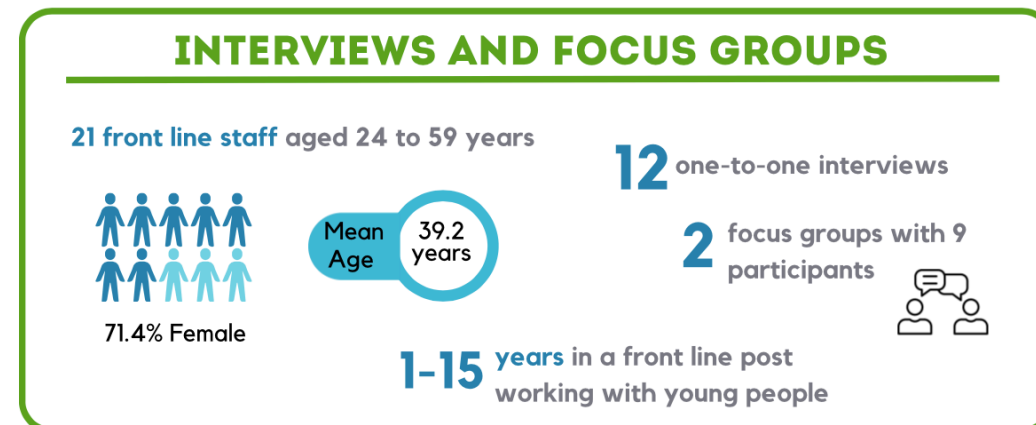
**94%**  
would use a laptop as their preferred modality

**60%**  
stated organisational factors would impact the ability to use CaTS



## Interviews and Focus Groups

Interviews and focus groups took place online between May and August 2023. Participants numbered 21 and represented the following settings: Social Care (n=1); Education (n=4); Third Sector (n=7); Healthcare (n=9).



### Interview and focus group findings

- Talking about self-harm with a young person is something that professionals across settings recognised as challenging, but increasingly necessary.
- Professionals would welcome a user-friendly young-person-based tool to understand and support young people who self-harm.
- Professionals liked the clear structure via the categories and timeline which would support reflection and communication.

"I think what young people engage in best is something they've helped to create."

"I do think this kind of tool would be so useful to young people and to people like me as clinicians."

"It's structured, its safe, everyone feels supported and contained."

"I think there are particular clients that would benefit from having these things actually just written down in front of them because finding the language themselves is a real challenge sometimes."

- Staff would welcome CaTS (as part of a tool kit of resources) but recognised that there were setting and situation specific factors that would influence how the tool would be used e.g. to increase understanding, facilitate conversation, support self-care, assess needs. **This purpose would need to be clearly signalled and discussed at the outset of any interaction.**




- Preference was given for a larger screen which could preserve some of the feel of the tool e.g. manoeuvrability of cards which was seen as an integral component of helping a young person to develop understanding and process thoughts.

- Digital version benefits include offering a streamlined and consistent approach to understanding, assessment and intervention which might be shared amongst services, and additional advantages in terms of functionality for progress tracking.

- There were concerns about implementation within a complex organisational structure and permissions for hosting on NHS servers.

- There were concerns regarding safety, privacy and confidentiality of data associated with a digital tool.

#### PREFERENCES

- Not wedded to one modality - but large screen 
- Look must be modern & not clinical 
- Streamlined offering so it can be shared 

#### CONCERNS

- Time required, costs, available resources, tech support 
- Institutional restrictions & permissions 
- Privacy, safety, security & storage queries 

## KEY VALUE FOR STAKEHOLDERS

COLLABORATION	YOUTH VOICE	DIGITAL APPLICATION
offers a structured framework to have supported conversation, enhances shared understanding, supports joint-decision making and scaffolds risk	co-development increases value and authenticity; process is youth led which empowers young people to reflect on and tell their story, in a supported setting	appealing, brings customisation and versatility, enhances engagement, value-added capacity to present, chart or share data

## Coproduction Workshops with Youth

11 young people aged 17 to 24 (mean = 19.4 yrs), with experience of self-harm were invited to take part in three workshops (73% female, 45% white British).

All young people involved in the sessions had the opportunity to meet with the research team and discuss the project and safeguarding need to ensure eligibility and safety.

Workshops were co-designed with Digital Youth's Young People Advisory Group, Sprouting Minds, and included some of these young people as facilitators. Workshops were designed to be interactive and collaborative. Workshops always ended with energy boosters, and all young people (facilitators and workshop attendees) were compensated for their time.

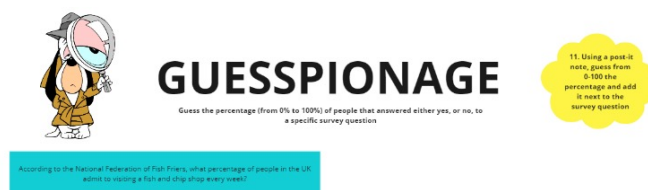


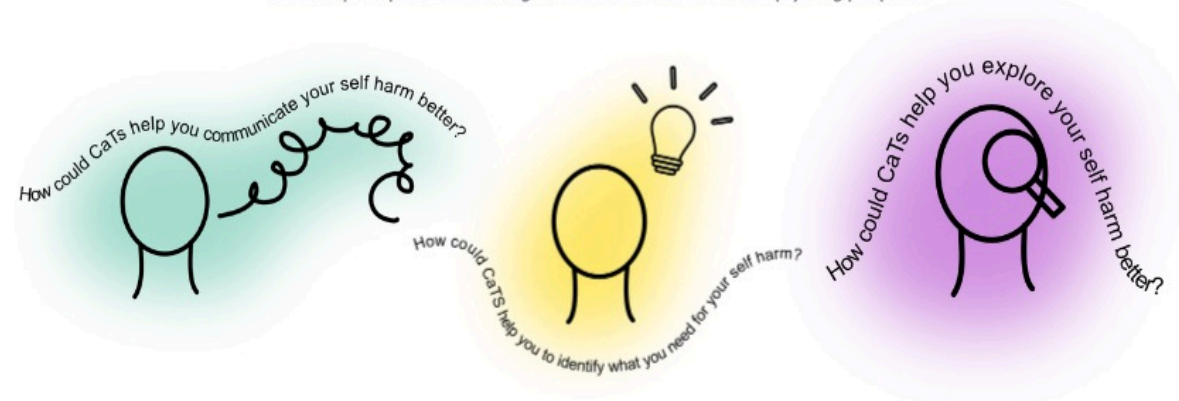
Figure 1: An example of an energy-booster used in our workshops

The workshops were supported by Harmless, a Nottingham based user-led community interest company who provide support for people and families who have a history with self-harm.



## 3 co-production workshops online and face to face

Workshops explored how a digital version of CaTS could help young people to:



The first workshop had an opportunity to attend in-person or a separate online session, and subsequent workshops were run online-only.

Across all workshops our aims were to consider a young person's perspective on the following key questions:

- How could a digital version of CaTS help them to explore their self-harm better?
- How could a digital version of CaTS help them communicate their self-harm better?
- How could a digital version of CaTS help them identify their needs for self-harm better?

## TOPICS COVERED WITHIN WORKSHOPS

Workshop 1	Workshop 2	Workshop 3
Initial perceptions of the CaTS tool	Continued reflections on the CaTS tool	What would be facilitator or barrier towards using CaTS across various settings e.g., schools, emergency departments, CAMHS
Thoughts around using the CaTS tool	Modifications they would make to the cards and timeline	Concerns around using CaTS and prioritising accessibility were also considered.
Whether any cards were missing during their experience	What features of the CaTS app would they integrate or leave out based on examples of available apps or digital versions of CaTS	

In workshop 1 we introduced our group to the CaTS tool and offered them a chance to explore the cards. We explored their initial perceptions of the tool and thoughts around how it felt to do a card sort, and if they felt any cards were missing.

In workshop 2 we continued to reflect on the CaTS tool, including what modifications young people might like to make to the cards and the timeline, and what features they would integrate or leave out. We considered ways of delivering a card-sort process digitally using examples of other available apps or other digital versions of CaTS to prompt thought. For the final workshop, we considered the use of CaTS across various settings including schools, emergency departments, within CAMHS or outside of CAMHS. We considered what would be a facilitator or barrier towards using CaTS in these settings and explored any further concerns around using CaTS. Our final activity asked young people to select and prioritise different accessibility needs of the tool.



## Key findings from workshops

### Workshop 1

1. In general, young people were positive about the CaTS-App as support for articulating their thoughts and validating their feelings. They saw value in using the tool to reflect on triggers and formulate support plans ahead of future crisis points.

2. Concerns raised about the CaTS-App included the potential for the tool to feel overwhelming and particularly if used at inappropriate time points (e.g. at crisis point). Young people felt that the timeline could be too prescriptive and had concerns CaTS-App wouldn't be accessible to all young people.

3. Feedback was given surrounding how the process of CaTS could be structured in a way that would reduce the likelihood of feeling overwhelmed and empower YP in the discussions they have with a practitioner.

### Workshop 2

1. Different methods for translating the card sorting process to a device were discussed, with suggestions of swiping through the cards to select those that are relevant or irrelevant, or having a means of being guided through the process by the app or with a practitioner.

2. Personalisation of the app was discussed so that young people could customise the app according to their likes or dislikes, or access needs. Being able to adapt the wording on the cards was important to young people.

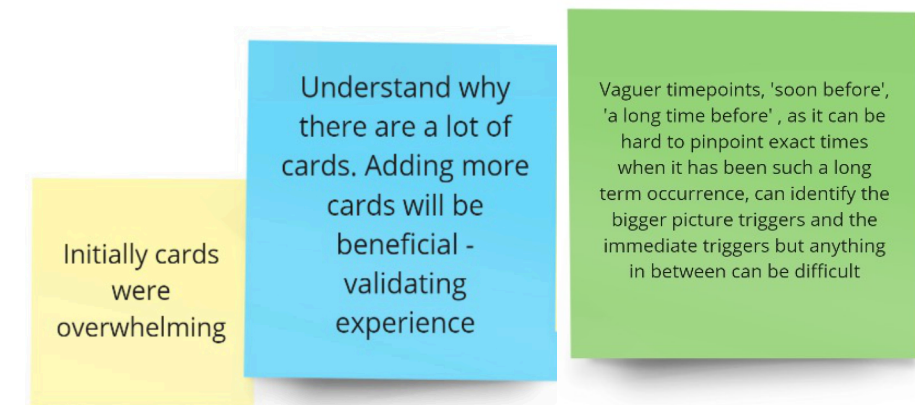
3. The ability to access the app prior to meeting with a practitioner was described as an important readiness process which would allow young people to prepare for a session of therapy or intervention.

### Workshop 3

1. Young people had strong views about the best setting to complete CaTS. There was a preference for CaTS to be offered in a treatment setting e.g. CAMHS rather than an acute setting such as an Emergency Department, or first tier settings like schools. This preference related to the perceived need to complete the tool with a suitably trained professional, and ideally over a number of sessions. Young people had concerns around privacy, confidentiality and who they would complete the tool with in a school setting. It was recognised that young people may have relationships with school-based staff and preferences around who they would or would not want to complete it with. It was felt that an ED department would be overwhelming and concerns about completing the task at a crisis point.

2. Considering concerns around safety, privacy, sharing and ease of use, young people suggested ways of embedding safeguarding (e.g. signposting, trigger-warnings); transparent confidentiality agreements and design features (e.g. password protection and neutral app name/display); clear policies around how data is shared and who can see this information; and embedded tutorials and guides to increase confidence and trust.

3. Priority accessibility issues included understandable language, navigational support and logical structure, text-to-speech, pause and stop capabilities, and compatibility. Additional features such as different languages, minimal flashing content, colour choices, predictable functions were identified as necessary but not as urgent.



## Summarising our findings

Spoken and written outputs from each of the workshops were analysed using qualitative content analysis with members of the research team and young people from Sprouting Minds. We conducted the analysis online using Miro which enabled us to collaborate and discuss (fig 2).

1. Activity 1 - Feelings about the CaTS tool

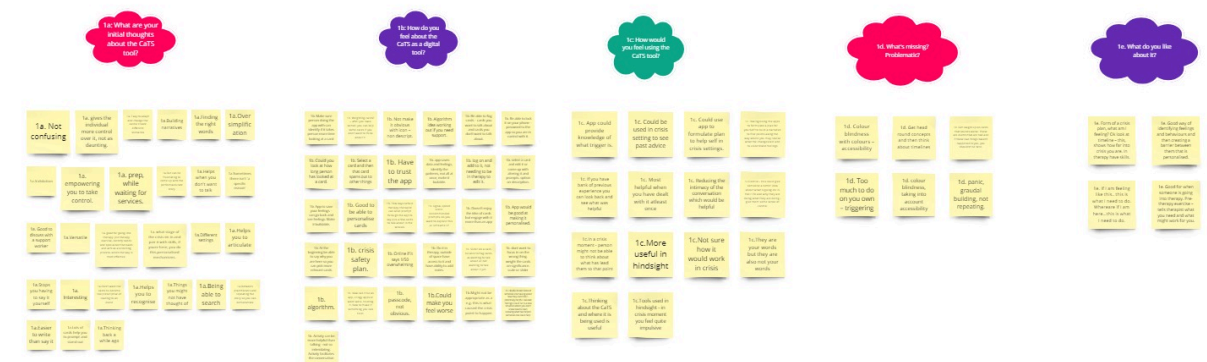


Figure 2: Screenshot of a cleaning stage of analysis on Miro's collaborative whiteboard

We identified four overarching themes:

### Communication and Autonomy

Young people see potential benefits in using a CaTS-App for self-harm support. They believe it can help them communicate their struggles better and give them more control over support processes. They value the ability to guide conversations with practitioners and personalise the app to their needs.

### Access, Safety and Privacy Concerns

Concerns were raised about data protection, privacy, and safety while using the CaTS-App. Young people want transparent privacy notices, control over their data, and protection from triggering content. They also emphasise the importance of accessibility and user-friendliness.

### Process for the CaTS-App

There's a need for a structured process for using the CaTS-App, preferably with multi-session support and practitioner oversight. It could facilitate conversations, prepare for sessions, and highlight triggering topics.

### Content of the CaTS Task

Feedback suggests the timeline and card elements need improvement for better usability. Customisable timelines and more organised card presentation are desired. Young people want to personalise the cards, flag important ones, and manage the overwhelming number of cards effectively.

There is more to this than just an app, it could make changes to the way the whole therapeutic process is carried out

Knowing this would make you feel safer and more able to share your experiences - and able to better know where your data is going and make it easier to share your thoughts and experiences

Video at start to set context and walk through what the app is and what it does and how. Reduce cognitive and emotional burden since might be quite a heavy duty task to do

Doing some work ahead of time would help communicate in a session - feature to flag a card to focus on in a session, reduce anxiety about what would be helpful to talk about in session

currently its hard to navigate so that would have to be improved before using it outside support

For colours, its better if we use CALM, AMBIENT tones over strong and Dark Tones considering the subject of the matter.

Should think about having a weighting on cards that the young person completes - but also in parallel one that the clinician could complete - that would be a useful discussion point in a therapeutic setting

## KEY FINDINGS

### CaTS enhances communication and provides autonomy

Greater communication > greater shared understanding  
Allow young people to guide the conversation  
Like that you can personalise app to own needs

### Access, safety and privacy concerns

Need for transparent privacy notices  
Want to know who has access to data and when they access it  
Must be accessible & user-friendly  
CaTS triggering so safety is priority

### A process for the CaTS-App

Best = multi-session approach  
Requires ability to save and return  
Oversight/support by practitioner is vital  
Could be used to prepare for sessions or pre-therapy?

### Content of the CaTS-App

Modify timeline to support recall  
Need large number of cards - validates  
Categories help process and metathesis  
Personalise more and include preventative cards

CaTS is a positive tool to capture, communicate and validate experience.

## Showcase

Young people from Sprouting Minds and workshops were offered the opportunity to review our analysis methods and findings and to offer feedback. We shared details at an online Showcase event in which we were able to check that the findings felt relatable to young people and to ensure those involved in the workshop agreed with our interpretations. This was also an opportunity to hear how our workshop attendees found the process of being involved in the co-production. All workshop attendees and members of sprouting mind were invited to the event. Seven workshop participants joined the Showcase and one PPI member helped facilitate the event.

During the Showcase, young people were able to reflect on priority areas for the app and to offer additional comment. Most of the group commented on the importance of accessibility for the app, including suggestions that it would be ideally multi-lingual or support read-aloud or dyslexia tools. Young people wanted the data to be trackable including a log of access and the autonomy to turn sharing on and off. They felt this would improve trust in the tool. Some liked the idea of having options to share parts of their data rather than all their data. Young people also indicated that they liked the idea of being able to personalise the app. They agreed that the app would improve autonomy and communication. One young person commented that the app could open new ways to how therapy is accessed.

Colour coding could suggest weighting e.g. how much they were affected by the event

Section of the app that are lockable at some times for safeguarding after discussion with a clinician



## PROTOTYPE DEVELOPMENT SHOULD PRIORITISE

CaTS-App prototype development should prioritise:

PROCESS	PERSONALISATION	PROTECTION	PROGRESS
(e.g. structuring the task to make it digestible and user friendly)	(adding features and content to tell your story)	(transparent privacy notices, control over their data, protection, from triggering content, accessibility )	(validation and recognising movement)

We are now embarking on Phase 2: Design and Development in which we will be drawing from the implications of Phase 1 to co-develop a working prototype of the CaTS-App. We will continue to involve our PPI group and key stakeholders in this work. See figure 3. to find out more about how we are involving stakeholder voices.

*If you are a practitioner stakeholder in education, health, industry or the third sector and would like to keep up to date with our progress and opportunities to be involved, please register your interest [here](#).*

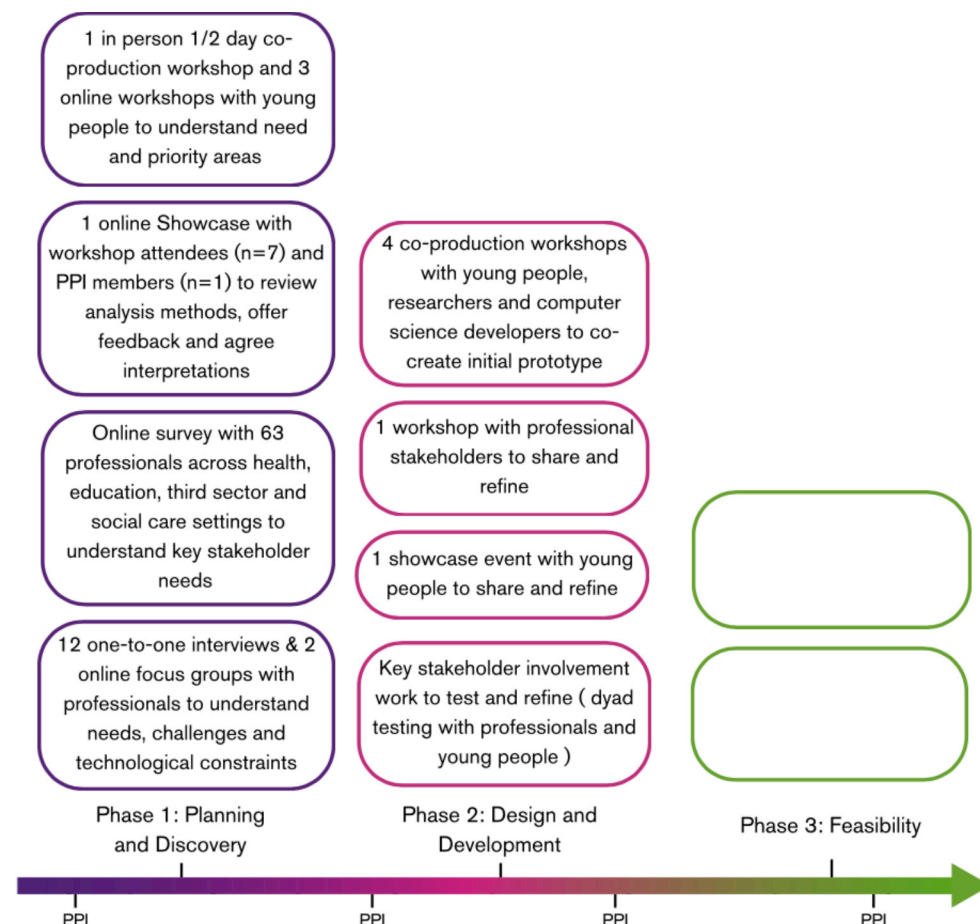


Figure 3: User-testing involvement timeline for CaTS-App

## Digital Youth - Work Package 8

**CaTS-App:**  
A new digital tool to understand and support young people who self-harm

If you have any questions or queries about the CaTS-App, please do not hesitate to get in touch with our team:

Jo Lockwood - [Joanna.lockwood@nottingham.ac.uk](mailto:Joanna.lockwood@nottingham.ac.uk)

or

Camilla Babbage - [Camilla.babbage@nottingham.ac.uk](mailto:Camilla.babbage@nottingham.ac.uk)

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