

Mental Health Training to Improve Communication with Children and Adolescents:  
A Process Evaluation

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## Abstract

**Aims and objective.** To characterise the intervention components, mechanisms of change and barriers to implementation of an intervention to improve the communication of hospital staff surrounding mental health with children and adolescents.

**Background.** Healthcare professionals consistently report a lack of confidence and knowledge to care for young people experiencing mental health difficulties. We Can Talk is a one-day training, delivered to hospital staff, which provides tools to improve their communication with children and adolescents about mental health. Initial evaluation suggests the training improved confidence and skills regarding communication; however, the effective intervention components and mechanisms of change are not yet understood.

**Design.** A process evaluation was conducted using a qualitative research design.

**Methods.** Document analysis of the training manual, using the Behaviour Change Technique Taxonomy, characterised intervention components. Ten interviews with paediatric staff from an east London hospital were conducted post-intervention. Using the Theoretical Domains Framework, the mechanisms of change and remaining barriers to communication were coded thematically. COREQ checklist was used in the reporting of the study.

**Results.** Twenty behaviour change techniques were identified. Communication about mental health was mainly facilitated through improving the knowledge, cognitive and interpersonal skills and beliefs about capabilities of healthcare professionals. A small number of staff continued to experience barriers to communication including a lack of

opportunity for communication, beliefs that their professional role is not suited to supporting mental health and nervousness. Behaviour change techniques are highlighted to address remaining barriers reported post-intervention.

**Conclusions.** Using validated and systematic behaviour change tools, this process evaluation contributes to the translation of evidence to clinical practice for more effective, sustainable and transparent mental health care, reducing the research-practice gap in this area.

**Relevance to clinical practice.** These findings can facilitate implementation of evidence-based practice and inform interventions, improving clinical practice and outcomes for children and adolescents.

**What does this paper contribute to the wider global clinical community?**

- Describes the components, mechanisms of change and barriers to implementation of a behaviour change intervention to improve the communication of hospital staff surrounding mental health with children and adolescents.
- Uses validated and systematic behaviour change tools, contributing to the translation of evidence to clinical practice for more effective, sustainable and transparent mental health care for children and adolescents.
- Facilitates the implementation of evidence-based practice and informs interventions, improving clinical practice and for children and adolescents

**Keywords:**

Programme Evaluation; Health Services; Qualitative Research; Adolescent; Children; Mental Health; Social Skills; Communication Barriers; Continuing Nursing Education

## **Introduction**

In the UK, children and adolescents experiencing mental health difficulties face inappropriately high criteria to be eligible for support, long waiting lists and gaps in service provision from school to specialist mental health care which often drives them to a crisis point requiring hospital care (Care Quality Commission, 2018). Hospital staff are usually the first health professionals to encounter the child or young person at crisis point. However, children and adolescents in England consistently report adverse experiences of hospital care regarding support for their mental health (National Collaborating Centre for Mental Health, 2004; We Can Talk, 2017). This discourages them from returning in a future crisis and reduces the likelihood of attending follow-up services (Saunders et al., 2012).

Poor communication of health care professionals surrounding mental health problems may contribute to these negative experiences. Poor communication reinforces the stigma associated with mental illness and creates barriers between the healthcare professional and young person (Anderson et al., 2017; Buston, 2002; Samargia et al., 2006). Yet, evidence repeatedly demonstrates that healthcare professionals report a lack of confidence and training regarding their approach to the mental health needs of children and adolescents (Ramritu et al., 2002; Thomas, 2017). A survey across three hospital sites in England, for example, found that 93% of hospital staff would be interested in receiving further mental health training (We Can Talk, 2017).

### **We Can Talk (WCT)**

In response, We Can Talk (WCT) was developed. WCT consists of a highly interactive one-day training session, delivered to hospital staff within the UK. WCT is taught by the team or site leads (appointed hospital and mental health staff trained in the delivery of WCT). The trainers also deliver WCT alongside a young person with experience of presenting to hospital due to mental health problems, who shares their perspective and tips during the training. WCT aims to develop confidence and provide hospital staff with the tools to improve their communication skills around mental health with children and adolescents. The intervention was co-produced with hospital staff, mental health experts and young people. The educational framework underlying the training was also co-produced and built from insights drawn from key frameworks in the field such as *Mental health in children and young people: An RCN toolkit for nurses who are not mental health specialists* (Royal College of Nursing, 2014).

We Can Talk is working with over 50 hospitals to train more than four thousand staff. The training has been evaluated by the Child Outcomes Research Consortium – the UK's leading membership organisation that collects and uses evidence to improve the mental health and wellbeing of children and young people. An initial pre and post-survey evaluation suggests improved confidence and skills of hospital staff regarding communication with children and adolescents about mental health. Findings show that 99% of attendees reported that the training will make a moderate to significant difference in the way they do their job, 76%-100% reported improved confidence and 76%-98% reported increased knowledge regarding communicating with children and young people about their mental health (We Can Talk, 2020).

## **A process evaluation to translate knowledge**

While this early impact data is positive, an important step in the development of an intervention and the translation of knowledge into practice is understanding the effectiveness of its implementation (Curtis et al., 2016). This involves understanding what works where and why (Damschroder et al., 2009). As opposed to an effectiveness or outcome evaluation, a process evaluation investigates the way in which an intervention is implemented, which can provide valuable insights into how it may be optimised (Craig & Petticrew, 2013). A process evaluation can be used to assess what is delivered in the intervention, how the intervention produces change and what acts as a barrier or enabler to its implementation or effects (Hoffmann et al., 2014; Moore et al., 2015). Process evaluations often lead to reformulation of the intervention and improvements in implementation before conducting a definitive evaluation (Gov, 2018). An understanding of how and why interventions work in practice is essential in building an evidence base that informs policy and practice (Craig et al., 2008).

This study uses the Behaviour Change Wheel (BCW) Framework, which is a validated and systematic tool to design, characterise and evaluate behaviour change interventions (Michie et al., 2014). The BCW Framework can be used to identify the intervention components (what is delivered) and mechanisms of change (how an intervention produces change). Furthermore, it can be used to provide suggested intervention components that could be implemented to overcome remaining modifiable barriers to a target behaviour and enhance the enablers post-intervention. Using a

behaviour change approach can reduce the research-practice gap in clinical nursing for more effective, sustainable and transparent mental healthcare service (Curtis et al., 2016).

Using the BCW Framework, this study aims to characterise the intervention components, mechanisms of change and barriers to implementation of WCT. The study focuses on hospital staff's communication behaviour about mental health with children and adolescents. Findings can be used to facilitate the implementation of evidence-based clinical nursing practice and inform interventions, improving mental health outcomes for children and adolescents (Curtis et al., 2016).

## **Research Background**

In a nurse-patient relationship, communication behaviour is defined as “communication that invites and encourages the patient to participate and negotiate in decision-making regarding their own care” (Langewitz et al., 1998, p. 230). Some studies have shown that under pressure from management or perceived time constraints, nurses may adopt a task-centred communication style rather than a patient-centred, empathetic communication style, which is preferred by patients (McCabe, 2004; Charlton et al., 2008). Numerous researchers highlight the importance of communication for high-quality nursing, with communication as the cornerstone of a positive nurse-patient relationship (Redfern & Norman, 1999; Thorsteinsson, 2002).

Within the context of mental health nursing, research suggests that communication behaviour and personal skills are highly developed, specifically within adult acute inpatient mental health units (Cleary et al., 2012). Less is known about effective communication



behaviour in the context of supporting the mental health of children and adolescents. However, research underlines significant barriers to mental health care for healthcare professionals. A systematic review exploring the barriers faced by primary care practitioners managing children and adolescents presenting with mental health difficulties, for instance, identified insufficient knowledge, confidence and resources as key factors reducing their ability to provide mental health support (O'Brien et al., 2016). In another example, McDougall (2016) notes the lack of skill development for nurses and support workers caring for children and young people in mental health crisis. Further research emphasises that more than half of the paediatricians surveyed by the American Academy of Paediatrics felt that they lacked competence in dealing with the mental health problems of their patients (McMillan et al., 2017). Together, these studies highlight the importance of mental health training for healthcare professionals caring for children and adolescents.

A systematic review of interventions to improve therapeutic alliance (underpinned by skilled communication behaviour) in mental health care settings found that the current evidence base is poor (Hartley, et al., 2020). There is currently a lack of research into interventions to improve communication behaviour in this mental health context, especially with children and adolescents. Existing interventions aim to educate and change healthcare staff's attitudes surrounding patients who self-harm, rather than targeting or enhancing communication behaviour (Thorncroft et al., 2016). Research suggests that education and attitude awareness surrounding mental illness can generate empathic attitudes, which may facilitate a change in communication behaviour (Anderson et al., 2005; Crawford et al., 2003; Thorncroft et al., 2016). Another important and possible

mechanism of change has been identified as 'social contact' with someone who has experienced mental health difficulties (Thornicroft et al., 2016). Intergroup contact theory would suggest that contact leads to the disconfirmation of negative stereotypical beliefs about mental illness, which could lead to behaviour change (Pettigrew & Tropp, 2006). However, previous evaluations of mental health awareness interventions argue that more information is required in order to link changes in attitudes to observed changes in behaviour (Saunders et al., 2012).

Given the dearth of research in this area, little is known regarding how interventions can produce change in communication behaviour about mental health for healthcare professionals working with children and adolescents. This can be addressed with a process evaluation of an existing intervention, using the Behaviour Change Wheel approach, which provides an evidence-based methodology to understand and promote behaviour change (Michie et al., 2014). Interventions such as WCT, which have achieved some level of success, can be better reported, understood and potentially improved and replicated by using this approach (Michie et al., 2014).

### **Behaviour Change Wheel Framework**

The BCW was developed from 19 key frameworks of behaviour change (Michie et al., 2014). At the core of the BCW, there is the COM-B (capability, opportunity, motivation and behaviour) model of behaviour. Using COM-B as an exploratory tool, researchers can determine influences on, and explain changes in, behaviour.

The Theoretical Domains Framework (TDF) breaks down COM-B into more detailed factors. For example, psychological capability (COM-B component) can be separated into

'knowledge' and 'cognitive and interpersonal skills' (TDF domains) (see Table 1). In this way, researchers can use the domains to understand key barriers and enablers to behaviour. Health professional behaviour has been investigated using the TDF within a variety of clinical behaviours including transfusions, prescribing errors and hand hygiene (Duncan et al., 2012; Islam et al., 2012; Fuller et al., 2014).

The TDF domains can also be used to identify mechanisms of change of a behaviour change intervention, thus providing a deductive approach to understand which domains are targeted by an intervention and therefore contributing to changes in behaviour (e.g. improved communication post-intervention). There are limited examples where this framework has been used to identify the mechanisms of change of interventions within healthcare (Steinmo et al., 2015; Connell et al., 2016).

The Behaviour Change Technique (BCT) Taxonomy (BCTT v1) collates a list of specific, evidence-based BCTs that form the intervention components or 'active ingredients' to produce behaviour change. For example, an effective technique for persuasion of a new behaviour is a senior, well-respected clinician repeatedly modelling the desirable behaviour in front of the hospital team.

Expert consensus allows for mapping the TDF domains to suggested BCTs (Michie et al., 2014). The BCW, therefore, offers value to intervention optimisation given that interventions are more likely to be effective if they include components (BCTs) that target the important barriers to the behaviour (COM-B, TDF) (Michie et al., 2008). Using this mapping, remaining barriers classified by the TDF domains can identify BCTs that, when applied, could improve the effectiveness of the intervention.

The BCW and BCTTv1 are useful tools in the process of translating research into clinical nursing practice, as using BCTs ensures that research is both observable and replicable (Curtis et al., 2016).

### **Present study**

Using the BCW framework, this study (1) characterises the intervention components of WCT, (2) identifies its mechanisms of change, (3) highlights remaining barriers to communication with children and adolescents about their mental health and (4) recommends BCTs to optimise the intervention.

Initially, it is important that the active ingredients of WCT are well-reported. Establishing the core components of a behaviour change intervention allows for future effectiveness evaluations to advance knowledge of which BCTs are instrumental in changing communication behaviour in this context (Michie et al., 2009). Using document analysis, the study first identifies the BCTs (intervention components) used in the training intervention manual and then links these to the barriers targeted using expert mapping informed by the BCW (Michie et al., 2013). Using qualitative interviews conducted post-intervention, the study next identifies the mechanisms of change and highlights any remaining barriers using the TDF. Lastly, using expert mapping informed by the BCW approach, the study identifies BCTs to improve WCT.

## **Methods**

### **Design**

A process evaluation was conducted using a qualitative research design. Document analysis of the training manual characterised intervention components. Ten interviews

with paediatric staff from an east London hospital were conducted to identify mechanisms of change and remaining barriers. The Consolidated criteria for reporting qualitative research (COREQ) checklist was used in the reporting of the study (Supplementary File 1).

## **Data Collection**

**Data Interview Study Setting.** The initial pilot evaluation project for WCT (We Can Talk, 2017) took place within one of the largest National Health Service (NHS) trusts (organisational units within the NHS) in England and Wales which supports the wellbeing of over half a million children and adolescents. The interview study took place in east London hospital within this trust.

**Sample and Recruitment.** Ten participants were recruited through opportunity sampling (via email) by the Practice development nurse/We Can Talk on-site lead in 2019 (see Table 2 for demographic information). The sample represented varied roles within the paediatrics ward, who have contact with children and adolescents. One staff member was ill on the day of interview and an alternative participant was recruited. The inclusion criteria consisted of those on the paediatrics ward that had completed the WCT training at least two weeks before the time of interview. The sample's time since completion of WCT ranged from 2 months to 2 years before the time of interview. Those who completed the training over six months earlier were tested for memory of WCT by ensuring that they answered the following questions correctly: 1) Who led the training day? and 2) Can you describe a) what happened during the role play or b) the 'understanding behaviour exercise' that you completed?

**Interview procedures.** Interviews were conducted by Rachel Moran (BSc), female, in fulfilment of her MSc research-based dissertation. It was made clear that the researcher was independent of the We Can Talk organisation and that the purpose of research was to understand the impact of the training on their behaviour at work and if they had any remaining difficulties.

Interviews took place in a quiet consultation room within the ward with the first author. Interviews were audio-recorded and sensitive to ward time pressures; they were held for approximately 30 minutes. Prior to the interview, participants completed a demographic form with their role, age, gender, ethnicity, when they attended WCT and previous mental health training. Post-interview, participants were debriefed, thanked and offered a £10 voucher. Memo notes were recorded immediately after each interview to allow for reflection on interview style, quality and key moments.

The interview began by allowing the staff member to introduce their role activities. The general topics covered were their broad experience of the WCT training day, how they think their communication with children and adolescents about mental health has changed and how WCT contributed, a description of a lived example, any remaining barriers to change and suggestions for improvements of the training. The full semi-structured interview schedule outlines 22 questions. Some questions were closely aligned with the COM-B and TDF frameworks, whilst others adopted a more exploratory approach (see Table 3 for example interview questions).

The first author received interview training during her MSc studies. Pilot interviews with an accredited Youth Mental Health First Aid trainer and a Staff Nurse, were conducted by the first author to establish clarity in understanding and assess the flow of the interview.

## **Analyses**

**Document Analysis and Barriers Targeted.** The intervention manual is a 129-page document created for the facilitators to follow when delivering and preparing for the intervention. The manual contains pieces of script, key principles, delivery notes, example anecdotes, the slides and guidance for working alongside the young advisor (young people with lived experiences of seeking mental health support that are an integral part of the WCT training team).

The intervention manual was coded using the BCTTv1, and a content analysis approach was applied. Rigorous inter-rater reliability checks of the complete intervention manual with a trained behaviour change colleague facilitated coding. A total of 104 instances of potential BCTs were discussed, and a final agreement rate of 96.15% was achieved. The identified BCTs were then mapped to corresponding intervention functions and COM-B/TDF domains. Mapping was completed following expert guidance (Michie et al., 2014; Human Behaviour Change Project, 2019).

**Analysis of Interviews.** All interviews were transcribed in full and analysed using thematic analysis. Braun and Clarke's (2006) overview of thematic analysis and their general step-by-step process was used in developing the analysis plan. The analytical framework was developed by the researchers, utilising the TDF to deductively code for themes followed by the inductive generation of subthemes to further the understanding of

behaviour change within this context. The subthemes were then checked for coherence, consistency and distinctiveness. This analysis plan was repeated for identification of staff's remaining barriers, except that inductive coding was not followed as the purpose of this research question was to inform recommendations, which utilises mapping of TDF domains to BCTs. The remaining barriers were mapped to suggested BCTs to optimise the WCT intervention. The overall method adopted a realist perspective, utilising a semantic approach to the generation of subthemes – whereby coding reflects the explicit content of the data.

Reliability checks of coding were carried out on two transcripts, and an agreement rate of 93.88% was achieved. NVivo and Microsoft Excel supported the organisation and interpretation of data.

**Ethical approval.** Ethical approval for a low-risk project was obtained. The study is registered as a quality improvement project under the Clinical Effectiveness Unit of the trust.

## **Results**

### **Document Analysis**

Tables 4 and 5 provide examples from the document analysis of intervention manual. Out of the taxonomy of 93, 20 different BCTs were identified within the manual. Based on the identified BCTs, BCW approach mapping indicates that WCT is most focussed on delivery of the intervention functions of education, persuasion and training. Thus, WCT focuses on developing hospital staff's knowledge and skills to communicate alongside influencing motivational aspects e.g. identity, beliefs, plans, intentions, emotions and habits



regarding the behaviour. The mapping would assume WCT works less to tackle barriers related to physical or social factors in the hospital environment.

### **WCT mechanisms of change perceived by hospital staff**

With highest references within the interview data, the main mechanisms of change (TDF domains) for changes in communication behaviour in this context were 'knowledge', 'cognitive and interpersonal skills' and 'beliefs about capabilities' (See Table 6). The inductive subthemes that further describe the coded data are presented alongside the TDF domains below.

#### **Main mechanisms of change.**

##### ***Knowledge. Inductive subtheme - Increased understanding of the young person.***

Participants reported that WCT increased their knowledge in many areas surrounding mental health. They stated that the training developed their understanding of children and young people's feelings and their internal reasoning for behaving in certain ways, looking beyond a stigmatised view of their outward behaviour. WCT001 – Oncology clinical nurse specialist explains why children and young people may express disruptive behaviour *“actually, they're behaving like that because they want you to understand how horrible they feel”*. Interestingly, even staff in higher bands such as WCT002 – Sister, reported a substantial increase in knowledge – *“Before, I wouldn't know, I thought they wouldn't want to talk about it but obviously they do”*.

Many participants emphasised the impact of understanding the young people's perspective of what constitutes a good experience in hospital. It can be difficult for healthcare staff to understand the experience of spending time in hospital with mental

health difficulties, from the perspective of the young person. The young advisor, specifically, was consistently identified as being highly impactful on the increase in understanding that staff experienced. WCT003, Nursing assistant – *“It was very interesting to have somebody come in and talk about mental health when they'd experienced it - that gave us an insight into what they think of us”*. WCT004, Practice development nurse expresses *“the young advisor element makes a massive difference because you've got someone's lived experience talking through relevant experiences”*. This increased understanding promotes staff to communicate in a way that the young person regards as appropriate and helpful.

***Cognitive and interpersonal skills. Inductive subtheme - Knowing how to interact.*** Many staff reported newfound interpersonal skills regarding how to communicate such as, *“Be approachable, give them time to talk, not to hurry them, not to finish sentences for them, ask open-ended questions”*. Reassurance and validation were consistently reported as being methods of effective communication reinforced by WCT. WCT004 – Practice development nurse *“If people are opening up to you and giving you information, actually validating that and acknowledging it is probably a big one”*. Some staff emphasised how WCT highlighted how to approach risk in communication. *“If you're trying to find something out, you've got to ask the question”*.’ - WCT003 – Nursing assistant. It was clear that participants experienced a notable shift in understanding of how to communicate appropriately and with skill. It was evident that the training had communicated their core messaging around ‘reassurance and validation’ effectively, as most participants demonstrated detailed recall and description for these ideas.

***Beliefs about capabilities. Inductive subtheme - Increased self-efficacy.*** Many staff reported that WCT has boosted their confidence to communicate with children and adolescents regarding their mental health. WCT008 – Nursery nurse agrees that confidence has spread throughout the team *“there is definitely a different air about it on the ward with regards to confidence”*. It seemed that attending the WCT training had boosted the confidence of most of the participants, with those having attended WCT most recently (within six months prior to time of interview) demonstrating higher levels of positivity and confidence about their capabilities.

WCT also targeted hospital staff’s self-efficacy to communicate effectively and confidently in the face of difficult interactions. WCT002- Sister, *“sometimes you don’t get the answers that you want straight away but just keep trying so that they trust you and you can have a conversation”*. WCT010 – Staff nurse spoke about acknowledging making mistakes. *“It’s better to acknowledge it because it makes them have a bit more faith in you that you’re going to be honest”*. WCT010 adds *“She (young advisor) said even if you say something and it’s not quite the right thing, at least you’ve tried, at least someone knows you care”*. Fewer participants spoke to this idea of maintaining confidence in the face of more difficult situations or having made mistakes. However, those who did, appeared to have more current experiences to share in terms of communication regarding mental health, indicating that they had been trialling the techniques learnt from WCT.

#### **Additional mechanisms of change.**

***Physical skills. Inductive subtheme - Using play or distraction.*** Some staff emphasised the importance of using play or distraction to facilitate communication.

WCT001 – Oncology clinical nurse specialist, furthered their skills after attending WCT by learning how to give hand massages so they could spend more time with their patients, allowing them to open up about mental health in their own time. *“It keeps me there for like a good 20 minutes, so I've got an excuse to be there”*. Although WCT may not develop physical skills directly, the training appears to prompt staff to facilitate communication in creative ways such as using more physical strategies.

***Social/professional role and identity. Inductive subtheme - Changes in beliefs surrounding role.*** Some staff conveyed their newfound perspective that talking to children and adolescents about their mental health is important and part of the role of holistic care. WCT010 – Staff nurse explains *“you ask people about their bowels - it doesn't have to be any more complicated than that”*. WCT010 adds *“Motivation has completely changed, I used to think we could get away with not really doing it and now it's like we do need to do it because it's important”*. This participant incorporated communication about mental health into the procedural ‘ABC assessment’, which staff use to quickly assess patients. Another key element of change is WCT influencing staff beliefs surrounding their abilities in their role in comparison to registered mental health nurses (RMN). WCT003 – Nursing assistant explains *“Now if there was an RMN, I'm always going to talk to the child because I know that they're not talking to them and they don't know how to because they don't have the right tools, the training”*. Some staff echoed this, noticing that they already have key skills that are valuable for basic communication about mental health and that they do not need to be a registered mental health nurse to engage with interactions that improve a young person’s experience of care.

**Emotion. Inductive subtheme - Emotions driving change.** Some staff reported how emotions elicited by WCT have motivated them to communicate with children and adolescents about their mental health. Specifically, WCT002 – Sister, highlights the role play element being the “*most effective thing of the day. It’s not actually until you feel it, that it opens your eyes*”. WCT006, a support worker, explains their reaction to the activity “*at first, I came out sad, but...it gives you more strength*”. WCT008 – Nursery nurse, was overwhelmed by emotion due to WCT, “*you can’t begin to imagine how, as a child, that would feel (starts to cry) ...This is what impacted on me on the course*”.

Some staff were also motivated by positive emotions or the feeling that they could have a worthwhile impact. It can be deeply upsetting for staff to consistently see young people in hospitals that are clearly experiencing intense lows, worry, frustrations or anger. The training appears to motivate staff through a realisation that they are capable of helping the young people experiencing this. Staff reported positive and fulfilling emotions that tie to this realisation, which help them to carry out the communication behaviours that they learn on WCT.

**Social influences. Inductive subtheme - Change in team dynamics**

Some staff reported how WCT may have altered the descriptive social norms surrounding lower-band staff roles. A nurse in a lower-band role, WCT003, explains “*I went on the course with people that are higher than me...So it was good for them to actually know what we do...Before, they probably thought we just sit there*”. A higher-band staff member reports that they now support other staff on one-to-ones, as they now understand that “*a lot more goes into it*”. This recognition of what lower-band staff do and the potential

difficulties involved, was a powerful source of motivation for lower-band staff to continue communicating with young people about mental health.

***Environmental context and resources. Inductive subtheme - Taking time to review behaviour and changing the ward environment.*** Many staff reported that having the opportunity to review their communication behaviour, has been instrumental in their process of change. WCT004 – Practice development nurse, quoted “*the roleplay element means that they get to test out some of the, what is felt to be quite blunt questions...And actually, they hear those said out loud, maybe isn't as bad as they thought.*” Previous to WCT, many staff had not received previous mental health training and had not had dedicated time to practice their communication skills about mental health in a safe and artificial environment. In the group role play, staff directed the course facilitators by giving them lines and behaviours relating to their communication, knowing that the consequences were not real or dangerous. This empowered the staff as they had time and space to develop their skills through this group exercise.

Finally, it is noted that WCT promoted the use of resources for the ward to facilitate communication with children and adolescents about their mental health. WCT008 – Nursery nurse, is collecting – “*fidget spinners and stress balls, mindful colouring, apps and websites that we can give out to the nurses to give to the children*”. WCT004 – Practice development nurse reported “*we're looking at an actual risk assessment document, that they can look through if they are the ones making that choice*”. A risk assessment document for staff highlights that communication about mental health and risk is necessary and part of protocol.

## Remaining barriers to communication

Overall, few barriers to talking with children and adolescents about mental health remain. The most frequently reported barriers, classified by TDF domains, were ‘social or professional role and identity’, ‘beliefs about capabilities’, ‘emotion’ and ‘social influences.’ (See Table 7).

### **Main barriers to change.**

***Social or professional role and identity.*** Some staff portrayed beliefs that there is not much that they can do for mental health within their professional role and that there is a distinction between mental and physical health patients. One participant refers to this distinction as “*normal patients - in the sense of kids that come in not mental health-related*” and speaks of nurses being “*stuck with mental health patients.*” When asked if they have had a difficult interaction regarding a patient’s mental health since WCT, a staff member replies “*No, I don't really do that side of things....my patient group don't have mental health issues*”.

Staff who held this perspective tended to be newly qualified band 5 staff or highly specialised staff in band 7, that have a direct focus on one aspect of healthcare. Band 5 is the initial grade of a qualified nurse and within the current study, staff in band 5 hold roles on the ward such as ‘staff nurse’. Band 7 staff are more senior such as ward or nurse managers. In this case, the view was held by an oncology clinical nurse specialist, who tended to work away from the main paediatric ward floor, in isolation with patients. WCT training teaches staff to communicate with *all* children and adolescents about their mental health and this categorisation of patients acts as a barrier to communication promoted by

WCT. The view that communication about mental health is not part of their professional role is likely to prevent staff communicating and supporting their patients holistically.

**Beliefs about capabilities.** Staff members with varying levels of career experience reported remaining barriers relating to confidence and belief about their capability. Newly qualified WCT007, aged 24 and in her first band 5 role since graduating, says she is *“still not as confident or as un-anxious as I could be...I don't know if it's just waiting for myself to catch up a bit, just kind of my own development”*. A ward sister (WCT002) aged 31 in a higher-band role of band 7, managing lower levels of staff and the ward environment, also reported – *“the subject of mental health is still a little out of my comfort zone as I feel I do not have enough experience”*.

**Emotion.** Some staff reported emotions such as fear and nervousness, preventing them from communicating with children and adolescents about their mental health. When asked to imagine speaking to a patient about the risk of their situation, WCT007- Staff nurse reports *“It would probably make me quite anxious, just because you're asking them to acknowledge how unwell they are”*. One member of staff fears that her own emotional state could hinder good communication – *“something may slip out because of my anxiety”*. For the few that demonstrated strong negative emotions around the thought of a difficult interaction, there was a sense that they would continue to try but that more external support or help may be required to help them to engage with communication behaviour about mental health.

**Social influences.** Some staff reported that they still find it difficult to speak with children and adolescents about mental health when parents or family members are



present. WCT010 – Staff nurse quoted “*sometimes parents being there can complicate things*”. Furthermore, there are hierarchical influences that appear to dictate that lower-level staff tend to be assigned one-to-ones. WCT003, Nursing assistant explains “*people that are higher than me don't normally spend time with children because they're doing more clinical work*”. WCT010 – Staff nurse feels some staff lack the social opportunity to communicate with children and adolescents about their mental health and suggests that perhaps this responsibility should not be limited to registered mental health nurses or lower-band roles “*it's all very well having training, but if you don't have a patient for like a year that has mental health problems, then you're not going to get to use your training. So maybe managers having a bit more awareness, like kind of rotating so that everyone gets to experience*”.

#### **Additional barriers.**

**Knowledge.** Some staff members highlighted gaps in knowledge and additional topics they thought would facilitate communication with children and adolescents about mental health. These included: an understanding of the medications patients receive for mental health, knowledge of what happens to the patients once they move on to additional, specialist services or clinics and increased understanding of personal mental health. Participants that reported remaining barriers to knowledge appeared to be actively engaging in improved communication behaviour post-intervention and were interested to learn more that would further enhance their interactions.

**Beliefs about consequences.** A few participants expressed barriers associated with beliefs about the consequences of communication. WCT005 – Staff nurse, “*One person*

*might react one way to what I say and if I say the same thing to another child, she might, I don't know cuss me out and might want to throw a punch".* Two participants believed that *"some of them just don't want to talk' and 'there's always going to be young people that you can't communicate with".* This negative outlook on the consequences of attempting to communicate about mental health demotivates staff to communicate, especially if they lack a patient and accepting attitude.

***Environmental context and resources.*** Some staff members mentioned that limited time and high pressure on the ward were important barriers to communication. WCT004-Practice development nurse, *"There were a lot of other pressures on the ward and strain on that shift".* WCT004 explains that *"she (nurse in charge) said she (patient) should just stay. Because from her point of view it was probably the easiest, safest, less pressured decision to make".* This demonstrates how barriers in the physical environment can prevent communication with the patient about their state of mental health. Finding the time to communicate effectively and ask about mental health, could lead to a better care experience for the patient e.g. timely discharge.

### **Interactions between COM-B domains.**

COM-B proposes that there are interactions between the components that influence behaviour (COM) and that performance of the behaviour itself impacts on these components (see Figure 1). Some insights from the analyses support this notion. WCT003 – Nursing assistant explained *"Knowledge empowers you...now, I know. You don't doubt yourself".* This quote demonstrates how the 'cognitive and interpersonal skills' domain/inductive subtheme of knowing how to interact has influenced the 'beliefs about

capabilities' domain/the inductive subtheme of increased self-efficacy. She adds "*Ooh, it's (motivation) gone up! You know why, because you gave the talk. Now, everyone knows what we do*". This suggests that the domain of 'social influences'/inductive subtheme of change in team dynamics has increased motivation to communicate due to redefining the norms attached to lower-band professional roles.

There is further evidence of interaction between domains regarding remaining barriers to communication post-intervention. Patterns in the qualitative interviews suggest that the domain of 'social or professional role and identity' is commonly associated with responses regarding 'beliefs about capability'. Post-intervention, there were repeated instances where newly qualified band 5 nursing staff reported that they felt that there was not much they could do for mental health within their professional role. Some reported that they felt less confident to be able to communicate with children and adolescents about mental health due to their own limited experience in the role.

### **Optimisation of WCT**

The four major barriers from the interview study were mapped to suggested BCTs using the BCW approach and insight from the Theories and Techniques Tool (See Table 8). Using APEASE (affordability, practicality, effectiveness/cost-effectiveness, acceptability, safety and equity) to assess the suitability of implementing the BCTS suggested, five BCTs are proposed to address the four main remaining barriers. These include *identity associated with change behaviour, focus on past successes, reduce negative emotions and restructuring the social environment*.

## **Discussion**

Using a behaviour change approach, this process evaluation found that communication with children and adolescents regarding their mental health was mainly facilitated through improving 'knowledge', 'cognitive and interpersonal skills' and 'beliefs about capabilities' of paediatric staff (mechanisms of change). The study provides new knowledge within behaviour change literature by identifying specific BCTs which have the potential to change communication behaviour of hospital staff with CYP regarding mental health.

The findings build on previous literature that demonstrates mental health awareness interventions focus on increasing knowledge, promoting positive attitudinal change, self-efficacy and resilience to communicate in more supportive ways regarding mental health (Thorncroft et al., 2016; McAllister et al., 2009). The findings also align with Intergroup contact theory (Thorncroft et al., 2016; Pettigrew & Tropp, 2006) that suggests social contact with someone who has experienced mental health difficulties can lead to behaviour change. Most participants in the current study identified the impact of the young advisor on their behaviour change and indicated increased knowledge/understanding of the young person as the linked mechanism of change.

A small number of staff continued to experience barriers to their communication. Five BCTs are identified below which address the four key remaining barriers of 'social/professional role and identity', 'social influences', 'beliefs about capability' and 'emotion'. These BCTs have the potential to optimise interventions such as WCT and support maintenance in behaviour change post-intervention.

### **Social and professional role and identity**

Some staff do not perceive that their professional role encompasses care for mental health. This is worrying given the calls to action on integrated healthcare and that people with physical long-term conditions are two to three times more likely to experience mental health problems than the general population (Naylor et al., 2012). In the current study, the few that held this attitude were newly qualified band 5 staff or highly specialised staff.

Previous literature supports that less experienced, younger nurses hold more negative views towards caring for mental health (Vine et al., 2017). Comparing the type of role itself, those in more senior, highly specialised roles have also been shown to hold more negative attitudes towards engaging in mental health care than nursing staff (Mackay & Barrowclough, 2011; Saunders et al., 2012). Although at different ends of the spectrum in terms of experience, both seem to perceive that caring for mental health is not part of their role. This may be because they may either lack experience (as in the case of the younger staff) or exposure (as in the case of the more senior staff) in communicating with patients experiencing these difficulties. New staff have spent less time in caring for mental health and specialist staff see many patients but focus on specific physical health needs. In both cases, the barrier of professional role identity may be influenced by the opportunity to spend time with children and adolescents experiencing mental health difficulties.

To address barriers relating to role identity, the BCT of *identity associated with changed behaviour* would be appropriate. It is important to encourage staff to present a new self-image of what it means to support all kinds of patients within their role. Participants could record thoughts they had previous to training such as “*there’s not much we can do for them*” and actively throw these into the ‘how I used to view my role’ bin as

part of a training day activity. It is key that this new identity is brought back to work life on the ward in order to maintain the changes in behaviour relating to. By emphasising that the new identity views healthcare holistically, communication with children and adolescents about their mental health may be further promoted.

### **Social influences**

Higher-band staff responses confirmed that a lack of social opportunity to interact on a one-to-one basis was a distinct barrier to communication with children and adolescents about their mental health. Professional role norms often dictate that registered mental health nurses or lower-band staff carry out one-to-ones (sitting with, supporting and spending time with a patient who is experiencing poor mental health.) Even when staff view communication with children and adolescents about mental health as important, they report that the norms around their role obstructs this desired communication behaviour.

In response to barriers of social opportunity, WCT may consider implementing the BCT of *restructuring the social environment*. Ward management should be encouraged to create a system whereby all members of staff can carry out one-to-one care, providing wards with a register to record when a staff member carries out an instructed one-to-one. This could be reviewed in staff meetings, suggesting alternative individuals to carry out or share future one-to-ones – whilst taking staffing pressure into consideration.

### **Beliefs about capability**

Staff who still feel under-confident to communicate with children and adolescents about mental health feel the need for further practice. Aligned with comments from a review of a similar intervention (McAllister et al., 2009), it is important to provide ongoing

training and practice rather than a one-time event of mental health training. According to the COM-B model, practicing communication skills regarding mental health (behaviour), may have a direct, positive impact on elements of reflective motivation such as beliefs about capability, thus sustaining and strengthening the drivers for this behaviour. Where ongoing training in communication behaviour is not feasible, WCT could implement the BCTs of *behavioural practice/rehearsal* and *focus on past successes*.

For *behavioural practice/rehearsal*, the role play between the young advisor and WCT training lead is a great opportunity for staff to view and think about a potential scenario, a greater emphasis on active practice for *all* trainees within the room would benefit staff's confidence in ability. Furthermore, staff should be encouraged to role play with each other to continue to practice their skills and build their confidence in communication behaviour. This would be best organised through facilitation and support from ward management. Additionally, staff could list all the previous times they have successfully communicated with children and adolescents about their mental health and focus on what went well in these interactions as to remember for future instances (*focus on past successes*). Further, WCT could advise staff to keep a record of these successes within a ward experience book post-intervention.

### **Emotion**

Some staff still experience emotions such as nervousness which can hinder communication. This barrier was more commonly mentioned by younger members of staff. This mirrors findings cited in Saunders et al. (2012) whereby nurses with more than 6 years of experience were found to be more confident in their ability to care for patients

who had self-harmed when compared with less experienced staff. This review highlights the need for regular supervision and emotional support for staff in the hospital setting beyond educational trainings.

WCT could implement the BCT of *social support (emotional)*, for example, by creating an internal online social feed for the 'WCT family' whereby staff can anonymously post concerns and worries to which the training leads can offer emotional support and encouragement. In this way, staff could have access to long-term social support to help them overcome barriers associated with emotion. Ward management should also encourage staff to share their worries, concerns or questions about communication behaviour surrounding mental health. Staff who feel supported emotionally by their colleagues will feel more empowered to continue communicating with children and adolescents about their mental health.

### **Limitations**

There are several limitations to consider within the current study. As trained users of the BCW approach, the researcher and second coder were largely confident in interpretation of the results. However, this does not eradicate the scope for potential bias in the analysis process and alternative researchers may have used the frameworks to categorise data in different ways.

Secondly, as mechanisms of change are dynamic, this study cannot confirm that the mechanisms of change identified 1) are all required for subsequent changes in this communication behaviour 2) were relevant to every individual with the sample or 3) are the same for promoting this target behaviour across different contexts. However, as the



first study of its kind, the mechanisms of change identified are possible areas of focus by which mental health interventions may consider promoting communication with children and adolescents about their mental health.

During interviews, when staff explained how practice had facilitated communication behaviour, it was important that the researcher clarified if this was referring to a change in behaviour due to practice on the training day or due to experience acquired post-intervention. Clarification during interviews was not always possible and to address this, a semantic approach to coding was utilised, whereby coding reflected the *explicit* content of data. Furthermore, any conflicts were resolved with the second coder to ensure that mechanisms of change were closely aligned to the experience on WCT.

Finally, interview data presented varied quality of introspection, reflection and articulation of experiences regarding WCT. Although there was a subjective decision that data saturation had been achieved, some themes relating to mechanisms of change may not have been expressed. Future studies could carry out focus groups to facilitate discussion for those that struggle to identify their personal processes of change.

## **Conclusions**

Behaviour change is central to the successful implementation of research evidence into clinical nursing practice, with effective translation involving a transparent understanding of intervention components (Curtis et al., 2016). This process evaluation identifies the active ingredients of a mental health training that facilitates positive behaviour change in the communication of healthcare staff with children and adolescents experiencing mental health difficulties. This provides a clear platform for intervention

optimisation and replication. Through application of the recommended BCTs, mental health trainings such as WCT may be more successful in achieving long term behaviour change in communication behaviour regarding mental health. It is hoped that this study is the first of many to apply the BCW approach to change behaviour relating to the support and promotion of mental health of children and adolescents.

### **Relevance to clinical practice**

Holistic healthcare, whereby professionals are able and motivated to support elements of both physical and mental health, is optimal in this climate of pressured mental health services. The findings of this study are relevant for improving clinical practice focusing on the mental health of children and adolescents in the following ways. First, the study highlights that the structure and dynamics of hospital staff teams could be reviewed to ensure that higher-band roles also spend time with children and adolescents experiencing mental health difficulties. This is likely to improve their confidence and develop their role identity regarding holistic care. There is also a need to enhance the confidence of newly qualified nursing staff which may be achieved through ongoing practice or through focussing on past successes of communicating with children and adolescents about their mental health.

Furthermore, the study highlights the need for ongoing practical and emotional support for hospital staff, in addition to educational trainings, as caring for mental health can continue to present challenges even after intervention. Social support and ongoing practice of communication in this context is likely to maintain motivation and confidence to communicate with children and adolescents regarding mental health.

Where trainings such as WCT are not accessible, healthcare staffing groups would be well advised to explore ways in which 'knowledge', 'cognitive and interpersonal skills' and 'beliefs about capabilities' could be promoted to improve communication between hospital staff and children and adolescents experiencing mental health difficulties. This may be achieved by implementing similar BCTs utilised by WCT and the suggested techniques discussed in this study. Healthcare staff looking to improve communication behaviour regarding mental health with children and adolescents would be well informed to listen to the perspective of a young person with lived experience of mental health difficulties and the care system. This study and previous literature have shown that this component (inclusion of a young person's perspective) can effectively influence motivation and capability to change communication behaviour.

Lastly, the findings of this study may be applicable to other settings where health professionals communicate with children and adolescents about their mental health. Recommendations from the Green paper for Transforming children and adolescent's mental health (GOV, 2017) highlights that *all* professionals in contact with youth could make a valuable contribution to their care and mental health journey. The active BCTs and mechanisms of change identified within the current study also present a suggested framework for how communication about mental health could be improved in the wider practitioner community in contact with children and adolescents. For example, school nurses report barriers of confidence and limited opportunities for education and training regarding supporting students with their mental health (Prymachuk et al., 2011). A cross-sectional UK wide study also found that 46% of school nurses have not received post-

registration training in mental health, yet 93% thought that this was an integral part of their role (Haddad et al., 2010). Therefore, it is suggested that the learnings from this process evaluation could help inform the decision making of selecting intervention components or BCTs used in mental health training for school nurses.

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<b>COM-B components</b>	<b>TDF domains</b>
Physical capability	Physical skills
Psychological capability	Knowledge
	Cognitive and interpersonal skills
	Memory, attention and decision processes
	Behavioural regulation
Social opportunity	Social influences
Physical opportunity	Environmental context and resources
Reflective motivation	Social/professional role and identity
	Beliefs about capabilities
	Optimism
	Intentions
	Goals
	Beliefs about consequences
Automatic motivation	Reinforcement
	Emotion

Table 1. *Theoretical Domains Framework within the Capability-Opportunity-Motivation model of Behaviour.*

<b>Participant number</b>	<b>Role</b>	<b>Band</b>	<b>Age</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Time since attending WCT</b>
WCT001	oncology clinical nurse specialist	7	45	F	White British	1 year 10 months
WCT002	sister	6	31	F	White British	3 months
WCT003	nursing assistant (paediatric)	2	44	F	Asian/British	2 months
WCT004	practice development nurse	7	36	F	White British	2 years/ Continues to deliver
WCT005	staff nurse (paediatric)	5	23	F	Sri Lankan -Tamil	2 months
WCT006	support worker	2	-	F	-	3 months
WCT007	staff nurse (paediatric)	5	24	F	White British	6 months
WCT008	nursery nurse	4	40	F	White British	3 months
WCT009	paediatric nurse practitioner	7	39	F	White British	3 months
WCT010	staff nurse	5	34	F	White British	11 months

Table 2. *Demographics of hospital staff from East London Hospital and site of interview.*

*Note.* Band 6 or 7 are regarded as more specialist roles with more autonomy. Most of the participants made up the core clinical team (Band 4, 5, 3 and 2.) Band 5 Staff nurses can be very newly qualified, coming into the role straight from graduating in Nursing. Observing the participant age in line with the band level is a proxy for years of experience in the field.

<b>Interview topic</b>	<b>Example question</b>	<b>COM-B</b>	<b>TDF</b>
Experience of intervention	Why did you attend the training day?	Exploratory	Exploratory
Behaviour change	If you were to describe how you feel and act now compared to before the training, how would those descriptions differ?	Exploratory	Exploratory
Behaviour change promoted by WCT	How has WCT impacted on your motivation to talk to CYP more about their MH and support?	Motivation	Exploratory
	How has WCT impacted on your belief in your ability to talk with CYP experiencing MH difficulties?	Motivation (Reflective)	Beliefs about Capabilities
Lived example	How have interactions you've had since WCT been impacted by the training?	Exploratory	Exploratory
Remaining barriers	What do you still find most difficult when interacting with CYP experiencing MH difficulties?	Exploratory	Exploratory
	If any, what are the factors related to your work environment, time and resources that impact you talking to CYP about their MH?	Opportunity (Physical and Social)	Environmental Context and Resources

Suggested improvement	Are there any topics, discussions or activities you can think of that would improve the WCT day or follow-up? What are they and why should they be included?	Exploratory	Exploratory
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Table 3. *Example questions from interview schedule.*



<b>BCT</b>	<b>TDF</b>	<b>Theory and techniques tool</b>	<b>COM-B component</b>
<i>Instruction on how to perform behaviour</i>		<b>Knowledge</b>	Psychological capability
		<b>Skills</b>	Physical capability
		<b>Beliefs about capabilities</b>	Reflective motivation
<i>Prompts and cues</i>	'Environmental context and resources'	<b>Environmental context and resources</b>	Physical opportunity
		<b>Memory, attention and decision processes</b>	Psychological capability
		<b>Behavioural cueing</b>	
		Reinforcement (inconclusive)	Automatic motivation
<i>Information about emotional consequences</i>	'Beliefs about consequences'	<b>Beliefs about consequences</b>	Reflective motivation
	'Emotion'	Emotion (inconclusive) Attitude towards behaviour (inconclusive)	Automatic motivation
<i>Verbal persuasion about capability</i>	'Beliefs about capabilities' 'Optimism'	<b>Beliefs about capabilities</b>	Reflective motivation
<i>Information about other's approval</i>	'Social influences'	<b>Social influences</b>	Social opportunity
		<b>Norms</b>	
		<b>Subjective norms</b>	
		Intention (inconclusive)	Reflective motivation
<i>Credible source</i>		<b>Attitude towards behaviour</b>	Reflective motivation

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		<b>General attitudes/beliefs</b>	
		Social/professional role and identity (inconclusive)	
<i>Salience of consequences</i>	'Beliefs about consequences'	<b>Beliefs about consequences</b> <b>Perceived susceptibility/vulnerability</b>	Reflective motivation
		Attitude towards behaviour (inconclusive)	
<i>Social support (unspecified)</i>	'Social influences'	<b>Social influences</b> Social/professional role and identity (inconclusive)	Social opportunity Reflective motivation

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Table 4. *Main We Can Talk Behaviour Change Techniques mapped to the specific barriers to communication they address.*

*Note.* Some Behaviour Change Techniques are not linked to any Theoretical Domains Framework domains by the expert consensus table (3.4) of The Behaviour Change Wheel guide to designing interventions. Those in bold in the Theories and Techniques tool column have been directly linked to the specific Behaviour Change Technique. The evidence for the others in this column is suggestive but inconclusive.

<b>BCT</b>	<b>Frequency</b>	<b>Example quote from training manual</b>
<i>Instruction on how to perform behaviour</i>	19	“Saying something is better than saying nothing at all”, “Avoid making false promises” and “Ask them what has helped in the past”.
<i>Prompts and cues</i>	11	“It’s always important to ask the young person. The young person who drank a bottle of vodka because they thought it would make them the soul of the party looks exactly the same as the child who drank it because they don’t want to wake up tomorrow”
<i>Information about emotional consequences</i>	8	“Involving young people in decision-making can completely revolutionize their experience. Children and young people who self-harm say that it is a better experience when they can talk through what led up to the event, it gives children and young people the confidence to seek help in the future and helps them value themselves.”
<i>Verbal persuasion about capability</i>	6	“Everyone in the room can have a positive impact, you can support and provide excellent care for these young people. You don’t have to be an expert- we don’t care if you have ‘mental’ in your job title”
<i>Information about other’s approval</i>	5	“Communication is highly valued by young people.”

Table 5. *Examples of the intervention manual coded to Behaviour Change Techniques.*

COM-B component and TDF domains	Sources	References	Example quote
Psychological capability			<i>"It taught me how to feel more at ease and relaxed whilst talking to the children. Asking direct questions about their mental health and asking what help they actually want."</i>
– 'Knowledge'	10	121	
– 'Cognitive & interpersonal skills'	10	40	
– 'Memory, attention & decision processes'	3	4	
– 'Behavioural regulation'	1	1	
Physical capability			<i>"I learnt how to do hand massage because it was a way of when I'm sitting a patient for a long time...that I can do something completely different, a little hand massage to help them relax. It keeps me there for it like a good 20 minutes, so I've got an excuse to be there (in case they want to talk)."</i>
– 'Physical skills'	6	13	
Physical opportunity			<i>"I'm actually putting together a box now things like fidget spinners and stress balls, mindful colouring and going to get some info on some apps and websites that we can give out to the nurses to give to the children. It's come as a direct result from the training, so it's big!"</i>
– 'Environmental context & resources'	8	31	
Social opportunity			<i>"There's definitely a recognition from us as senior nurses that we have to remind people to ask about risk again and ensure that people are doing those risk assessments and maybe having some of those conversations"</i>
– 'Social influences'	5	15	

Reflective motivation				<i>"I didn't have much motivation to talk about mental health because I thought it was kind of, and I think a lot of people feel like this, It's like we're physical like we do the physical kind of clinical staff ... as we're looking after physically, we don't kind of need to worry too much as long as we've done all our referrals and everything. Since the training, it's obviously really important that you talk to people because it's a whole kind of holistic care. So, you need to make sure someone is mentally okay ... I guess motivation has completely changed... now it's like we do need to do it because it's important."</i>
–	'Social or professional role & identity'	6	18	
–	'Beliefs about capabilities'	8	42	
–	'Optimism'	5	20	
–	'Intentions'	5	11	
–	'Goals'	2	2	
–	'Beliefs about consequences'	7	17	
Automatic motivation				<i>"We've all had days where we feel rubbish and maybe a bit down but you can't begin to imagine how, as a child, how that would feel...(begins crying)...This is what impacted on me on the course. It was a bit of a counselling session; it was quite cathartic.... All the children have always been there, but just it's more to the forefront now."</i>
–	'Reinforcement'	0	0	
–	'Emotion'	7	29	

Table 6. *Mechanisms of change frequency of sources and references identified for COM-B components and TDF domains. Note.* Sources are the number of participants that spoke about that TDF component. References are the instances of that component was mentioned.

COM-B component and TDF domains	Sources	References	Example quote
Psychological capability			<i>"I wouldn't say it's a full circle. I think it's probably still some thinking out there that's maybe not quite in the vein we want it to be...there's also some kind of fear around whether they should be in A&amp;E because we need a one-to-one or whether they can be on the ward and actually whether it's safe. I think that's probably one of the main things still."</i>
– 'Knowledge'	6	11	
– 'Cognitive & interpersonal skills'	2	2	
– 'Memory, attention & decision processes'	3	4	
– 'Behavioural regulation'	0	0	
Physical capability			
– 'Physical skills'	0	0	
Physical opportunity			<i>"We had some sick, physically sick children on the ward and there's a lot of pressure and strain on that shift and the nurse in charge said she should just stay. Because from her point of view it was the easiest, safest, less pressured decision to make."</i>
– 'Environmental context & resources'	5	9	
Social opportunity			<i>"Sometimes I'm like afraid to ask about something in front of parents because...where there are lots of teenagers and they might not want to kind of talk about everything in front of their parents."</i>
– 'Social influences'	6	12	
Reflective motivation			<i>"Just medically there's not necessarily much that needs doing and sometimes they've had a bad day or they've done something but then once they've done it, they're not too bad? So, you're just kind of keeping an eye on them, but there's not really much that you can do for them."</i>
– 'Social or professional role & identity'	7	13	
– 'Beliefs about capabilities'	6	12	
– 'Optimism'	3	4	
– 'Intentions'	1	1	

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– ‘Goals’	0	0	<i>“Or one person might react one way to what I say and if I say the same thing to</i>
– ‘Beliefs about consequences’	5	9	<i>another child, she might, I don't know cuss me out and might want to throw a</i>
			<i>punch.”</i>
Automatic motivation			<i>“But I still feel quite...scared is not right word either...Out of my depth with this</i>
– ‘Reinforcement’	1	1	<i>particular child definitely.”</i>
– ‘Emotion’	8	18	<i>“I don't know if I'm going to just make things worse for her with me walking in. I am</i>
			<i>nervous in that respect really.”</i>

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Table 7. *Remaining barriers to communication - frequency of sources and references identified for COM-B components and TDF domains. Note. Sources are the number of participants that spoke about that TDF component. References are the instances of that component was mentioned.*

<b>COM-B component</b>	<b>TDF</b>	<b>BCT</b>
Reflective motivation	<p>'Social or professional role and identity'</p> <p>'Beliefs about capability'</p>	<p><i>Social support (unspecified)</i></p> <p><i>Social comparison</i></p> <p><i>Credible source</i></p> <p><u><i>Identity associated with changed behaviour</i></u></p> <p><b><i>Verbal persuasion about capability</i></b></p> <p><b><i>Instruction on how to perform behaviour</i></b></p> <p><b><i>Demonstration of the behaviour</i></b></p> <p><b><i>Behavioural practice/rehearsal</i></b></p> <p><u><b><i>Focus on past successes</i></b></u></p> <p><u><b><i>Self-talk</i></b></u></p> <p><u><b><i>Problem solving</i></b></u></p> <p><u><b><i>Graded tasks</i></b></u></p> <p><u><b><i>Goal setting (behaviour)</i></b></u></p> <p><u><b><i>Reduce negative emotions</i></b></u></p>
Automatic motivation	'Emotion'	<p><b><i>Reduce negative emotions</i></b></p> <p><b><i>Social support (emotional)</i></b></p> <p><i>Anticipated regret</i></p> <p><i>Information about emotional consequences</i></p>



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		<i>Framing/reframing</i>
Social opportunity	'Social influences'	<b><i>Social support (practical)</i></b> <b><i>Social support (unspecified)</i></b> <b><i>Social comparison</i></b> <b><i>Information about other's approval</i></b> <u><i>Social reward</i></u> <u><i>Restructuring the social environment</i></u> <u><i>Monitoring of behaviours by others without feedback</i></u>

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Table 8. *Main remaining barriers reported mapped to suggested Behaviour Change Techniques.*

**Note.** Change Technique column – those in bold have been directly linked to the specific Theoretical Domains Framework barrier, the evidence for the others in this column is suggestive but inconclusive. Those underlined are currently not used within the We Can Talk intervention training manual.

Figure 1. Interactions between COM-B components as listed with the study subthemes.

