MAIN

South African youth's understanding of feelings, thoughts and behaviours: Implications for the development of CBT-based mental health interventions

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Abstract
Background: Mental health problems are common in youth in low- and middle-income countries (LMICs), including South Africa. Preventative interventions, based on cognitive behaviour therapy (CBT), delivered in schools, have been found to alleviate symptoms of depression and anxiety in high income countries (HICs). However, less is known about whether youth in LMICs are able to engage with the core concepts of CBT.
Aims: To explore how young people in the Western Cape, South Africa, understand key CBT concepts, such as feelings, thoughts and behaviours.
Method: We interviewed 22 young people (10–15 years of age; mean age 11.6 years; $SD = 1.0$) recruited from two public primary schools in the Western Cape, South Africa. Interviews were audio-recorded, transcribed verbatim, translated from Afrikaans into English where necessary and analysed thematically using a deductive approach.
Results: Young people described feelings as internal, private, and should only be shared with trusted others. They also described how feelings varied, depending on the situation. They found the concept of thoughts more challenging to describe. Youth were able to say what they do when they experience unpleasant feelings, and they linked their behaviours to their feelings and thoughts.
Conclusions: In this cultural context, our qualitative investigation found evidence that young people were able to engage with abstract concepts including feelings and to some degree, thoughts. To ensure that CBT-based interventions are developmentally appropriate and accessible, psychoeducation may help youth distinguish between thoughts, feelings and behaviours, and a focus on identifying and naming feelings may be beneficial.

Introduction

Worldwide, around one in eight children and adolescents experience mental health problems (Polanczyk *et al.*, 2015). In low- and middle-income countries (LMICs), such as South Africa, where children are exposed to multiple risk factors such as violence, child maltreatment, living in households affected by HIV/AIDS and poverty, the estimated prevalence of mental health problems is even higher (Flisher *et al.*, 2012; Kieling *et al.*, 2011; Lu *et al.*, 2018; Patel *et al.*, 2007). In South Africa, estimated prevalence rates of anxiety or depression in children (age

10–12) are one in eight (Cortina *et al.,* 2013) and as many as four in ten 14- and 15-year-olds may have depression (Das-Munshi *et al.,* 2016). Mental health problems interfere with children's daily functioning, including education, social relationships and developmental progress (Belfer, 2008; Dalsgaard *et al.,* 2020; Finning *et al.,* 2020; Giel *et al.,* 1981; Patel *et al.,* 2007; Rescorla *et al.,* 2007; Wickersham *et al.,* 2020). Long-term, if untreated, mental health problems tend to persist (American Psychiatric Association, 2013; Fombonne *et al.,* 2001).

There is good evidence from high-income countries (HICs) that interventions based on cognitive behaviour therapy (CBT) are effective in treating anxiety and depression in children (Creswell *et al.,* 2014; Klein *et al.,* 2007; Reynolds *et al.,* 2012; Weisz *et al.,* 2006). Similarly, a review of 45 indicated school-based interventions, predominantly conducted in HICs, showed that school-based interventions are also effective at reducing symptoms of depression and anxiety amongst children (Gee *et al.,* 2020). There is some evidence of similar effectiveness of these interventions in LMICs, although data are limited (Yatham *et al.,* 2018). While these outcomes are promising, early intervention is needed to reduce the severity and/or the persistence of primary mental health disorders, as well as to prevent the onset of secondary disorders (De Girolamo *et al.,* 2012). This is especially important in LMICs where the mental health needs of children are neglected (Kieling *et al.,* 2011), due to the scarcity of resources, and a lack of evidence-based interventions (Belfer, 2008; Patel *et al.,* 2008).

Universal interventions are provided to a whole population group, rather than to specific individuals with symptoms (Mrazek and Haggerty, 1994), with the aim of preventing mental health problems or addressing mental health problems early on. In the UK, universal, school-based interventions, aimed at promoting emotional or mental well-being or preventing mental health difficulties, delivered to youth aged 5–16 years, have shown neutral to small effects (Mackenzie and Williams, 2018). A systematic review of 118 school-based depression and/or anxiety prevention interventions (mostly conducted in HICs) found that compared with universal interventions for depression, targeted interventions (delivered to young people at risk of developing depression, or with symptoms) resulted in significantly greater effect sizes (Werner-Seidler *et al.,* 2021). In LMICs, universal school-based mental health interventions have shown promising outcomes for anxiety and depression, although it has to be noted that the evidence is limited, and few studies have detailed how the interventions were developed or adapted for the local context (Bradshaw *et al.,* 2021).

More high-quality, large-scale studies are needed to explore any possible long-term benefits of universal, school-based mental health interventions (Mackenzie and Williams, 2018). Even though the effects of school-based depression and/or anxiety universal or targeted interventions seem to be small, such early, preventative mental health interventions could still have a substantial impact on the greater public's mental health when delivered at scale (Werner-Seidler *et al.,* 2021). The impact of school-based early interventions (whether universal or targeted) could be enhanced by continuing to improve and refine such interventions and by embedding interventions in a sustainable way within schools (Werner-Seidler *et al.,* 2021). Indeed, the practical constraints that effect implementation need to be considered. Schools may find it easier to timetable universal interventions for whole classes rather than arrange for targeted interventions involving a few students from multiple classes. To date, no studies have examined the effectiveness of school-based early interventions (whether universal or targeted) in South Africa. In this context, it could be argued that the focus should be on low-cost, universally available, accessible resources, which are developmentally appropriate and empower children and young people (Flisher *et al.,* 2012; Patel *et al.,* 2008).

Irrespective of whether the aim is to develop a CBT-based universal intervention or a CBT-based targeted intervention, it is important to know what youth's understanding of key CBT-based concepts are, so that young people can be socialized to the CBT model (Mahoney-Davies *et al.,* 2017). For children to engage in and benefit from CBT-based interventions they have to be able to identify and monitor feelings, thoughts and behaviours; challenge and test

thoughts; develop alternative ways of coping with unpleasant feelings; and learn new behaviours (Albano and Kendall, 2002; Reynolds *et al*., 2006). Given the early age of onset of many mental health problems (Kessler *et al*., 2007), the primary school years could be an opportune time for the implementation of preventive interventions like universal school-based approaches (Yap and Jorm, 2015). Children aged 7–11 years fall into the concrete operational stage of cognitive development (Louw & Louw, 2014; Piaget, 1972). While children could possibly begin to think more systematically and logically during this stage, this is not a given, and their ability to think abstractly and hypothetically could still be rather limited. At around 11–12 years of age, children typically enter the formal operational stage of cognitive development during which time they could begin to develop the capacity for more abstract thinking (Louw and Louw, 2014; Piaget, 1972). Again, this development from concrete to more abstract thinking is not necessarily an inevitable process of childhood development. As such, this raises the question of the extent to which young people in the primary school years can engage with abstract concepts and CBT-based interventions, especially in a LMIC such as South Africa where exposure to risk factors could have an influence on children's development.

Research conducted in HICs showed that compared with 7- and 8-year-olds, 10- and 11-year-olds performed better when asked to discriminate between thoughts and behaviours (Quakley *et al*., 2003). Results of another HIC study showed that children as young as 6 or 7 were able to discriminate amongst thoughts, feelings and behaviours, although those 'at risk' of mental health problems performed significantly poorer (Reynolds *et al*., 2006). Research has shown that most 8- to 12-year-olds can identify emotional difficulties displayed by hypothetical peers in vignettes (Georgakakou-Koutsonikou *et al*., 2019). Simple, concrete cues, including stories, have also been shown to improve children's (aged 4–7 years) performance in terms of discriminating amongst thoughts, feelings and behaviours (Quakley *et al*., 2004). Concrete methods of introducing abstract concepts can be incorporated in CBT-based interventions to make these more accessible to children (Quakley *et al*., 2004; Reynolds *et al*., 2006).

Little is known about the extent to which South African primary school-aged youth, who are in a context of heightened risk for mental health problems, can engage with the core principles of CBT. One South African study showed that children (aged 7–10; $n = 42$) could name different feelings (Human, 2018; Loxton and Human, 2017), while another study showed that some children (aged 10–13; $n = 52$) had difficulty distinguishing between thoughts and feelings (Loxton and Webber, 2015; Webber, 2016). While South African children (age 9–13; $n = 16$) with visual impairments could differentiate between feelings and behaviours, they struggled to identify thoughts (Visagie *et al*., 2017). To know whether universal CBT-based interventions in primary schools in South Africa may be appropriate, and to inform adaptations to interventions, we need to know more about how young people in the general population in South Africa understand feelings, thoughts and behaviours, and whether they are able to discriminate among these. Therefore, in this qualitative study, we aimed to explore how youth in this context understand key CBT concepts in order to inform the development of a CBT-based universal mental health programme.

Method

Research design

Findings reported in this paper form part of a larger project aimed at developing and assessing the acceptability and feasibility of a CBT-based psychoeducational intervention to support the psychological well-being of young people in primary schools in the Western Cape, South Africa (trial registration number PACTR202004803366609). The first phase of this project was a qualitative study with stakeholders to clarify whether young people were able to understand the core concepts of CBT. Youth were asked what 'feelings' and 'thoughts' meant to them; what makes them feel happy, sad, angry, and scared/anxious/nervous; what thoughts they have when they experience these feelings; and what they do when they have these feelings.

Table 1. Demographic information (2011 national census) on the areas where the two schools are situated, compared with provincial (Western Cape) and national averages

Socio-demographic variable	Urban area where School 1 is situated in (%)	Urban area where School 2 is situated in (%)	Provincial averages (%)	National averages (%)
Ethnicity*				
White	4.9	0.7	15.7	8.9
Black African	6	4.6	32.9	79.2
Coloured	88.1	93.9	48.8	8.9
Indian/Asian	0.3	0.4	1.0	2.5
Other	0.7	0.4	1.6	0.5
Language				
Afrikaans	94.4	91.3	49.7	13.5
English	2.5	5.7	20.2	9.6
isiXhosa	0.8	0.7	24.7	16.0
Other	2.3	2.3	—	—
Population				
Percentage young people (0–14 years)	24.1	21.7	—	29.2
Highest level of education (20+ years old)				
Completed primary school	9	5.5	5.6	4.6
Completed secondary school	25.7	32.7	28.2	28.9
Households				
Formal dwelling	91.2	95.4	80.4	77.6
Electricity for lighting	99	99.5	93.2	84.7
Flush toilets inside dwelling	93.4	95.2	89.6	60.1
Piped water inside dwelling	86	92.3	75.1	46.3

*These classifications for ethnicity are the classifications as used in the most recent South African census of 2011.

Research setting

This qualitative study took place at two public (government-funded) primary schools situated in two urban areas in the Western Cape province of South Africa, and in collaboration with a local non-government organisation (NGO), which operates within schools in the Western Cape to improve the social and emotional well-being of children and promote supportive school communities. The two schools were randomly chosen (using computer randomisation) from a list of schools ($n = 21$) within which the NGO operates. Both schools have a staff-to-learner ratio of approximately 40 learners to every 1 staff member. Both schools are part of South Africa's National School Nutrition Programme, which was introduced in 1994 (Devereux *et al.*, 2018). Public schools are eligible for funding for this feeding programme when most of the learners come from low socio-economic status families. For more socio-demographic details about the two areas in which the two schools are situated, please refer to Table 1.

As can be seen from Table 1, the vast majority (94.4 and 91.3%) of individuals living in the two areas where the schools are located are Afrikaans speaking. Almost a quarter (24.1 and 21.7%) of the population in the two areas are young people (aged 0–14 years). The majority of individuals live in formal dwellings, with access to electricity and flush toilets.

Participants and recruitment

We invited all young people in grades 5–7 (approximately 10–14 years of age), attending the two schools, to participate in our study. With the respective schools' permission, invitation letters were handed out to approximately 680 young people during regular school hours. The letters provided youth with information about the study and invited them to take part in one-off individual

in-person interviews. Young people who wanted to take part were asked to inform their educator or the NGO office manager at their school. All interested youth were then provided with a parental/caregiver consent form and asked to return the signed consent form to their educator or the NGO office manager at their school.

Procedures

Young people were interviewed in 2019 during regular school hours at an NGO counselling room or an empty classroom at school. Written informed parental/caregiver consent as well as written informed child assent were obtained for all participants. Interviews were conducted in Afrikaans ($n = 20$) or English ($n = 2$), depending on the individual participant's preferred language. The average length of an interview was 36.6 minutes (ranging from 21.2 to 59.0 minutes). Young people were interviewed by trained psychology graduates (S.H. and H.G.). Young people could choose whether to be interviewed in Afrikaans and/or English. Afrikaans and English are the two predominant languages spoken in the two areas and the two schools (see Table 1). Afrikaans is the first language of the two researchers (S.H. and H.G.) who conducted the interviews. Both interviewers are also fluent in English. This reduced the likelihood of translational issues influencing participants' responses. In cases where young people expressed information of a sensitive and/or traumatic nature, the interviewers responded in line with the policies and procedures of the collaborating NGO. All such incidents were also reported to, and reviewed by, the principal investigator (B.C.) of the larger project and the REC: Human Research (Humanities) who approved the study. Where necessary, young people were referred to the NGO, who agreed to offer psycho-social support to participants, if needed, and free of charge.

Materials

Demographic questionnaire
We asked participants to provide us with information on their gender, age and first language, as well as their current grade (class) at school.

Semi-structured interview schedule
We used a semi-structured interview schedule to guide the face-to face interviews. Interviews began with a general greeting and some ice-breaker questions. We asked young people what the words 'feelings' and 'thoughts' meant to them, if they could name some feelings and how they would explain 'feelings' and 'thoughts' to a friend. Following these questions, young people were presented with two short stories that they could either read out loud themselves or have read to them. Previous research has shown that stories are a child-friendly and non-threatening way of talking to young people about abstract concepts such as feelings, thoughts and behaviours (Human, 2018; Loxton and Human, 2017; Quakley, 2001; Quakley *et al.*, 2003; Quakley *et al.*, 2004). Each short story contained a description of an event, what a character thought in relation to the event and how the character behaved in relation to the event. Youth were asked questions about the character's feelings, thoughts and behaviours. Following this, youth were asked what made them feel happy, sad, angry and scared (or anxious or nervous), what thoughts they might have with each feeling, and what they do when they experience these feelings.

Data analysis

Transcripts were uploaded to ATLAS.ti v8, qualitative software for thematic analysis. We analysed the data thematically according to the six steps as set out by Braun and Clarke (2006). The data were coded deductively by S.H., who met regularly with H.G. and B.C. to check the consistency

Table 2. Demographics of participants (*n*=22)

Demographic characteristics	Number and percentage of participants
Gender	
Female	17 (77.3%)
Male	5 (22.7%)
First language	
Afrikaans	17 (77.3%)
English	4 (18.2%)
English and Afrikaans	1 (4.5%)
Current grade (class) in school	
Grade 5	9 (40.9%)
Grade 6	10 (45.5%)
Grade 7	3 (13.6%)

and accuracy of the codes developed. In line with deductive thematic analysis, we coded our data with a specific research question in mind (Braun and Clarke, 2006), in this case to explore young people's understanding of key CBT concepts, such as defining feelings and thoughts, how feelings and thoughts are linked, and how feelings and thoughts relate to behaviours. Furthermore, in line with deductive thematic analysis, we grouped our codes together to form themes, with the themes identified matching the specific interview questions that were asked (Nowell *et al.*, 2017). While data were coded with a specific research question in mind, namely, to explore young people's understanding of key CBT concepts, the entire data set was coded so as to consider all possible responses from the participating young people. Themes were reviewed and refined by all authors. Finally, all authors were involved in producing, reviewing and revising the final report.

Results

We interviewed 22 young people, with a mean age of 11.6 years (ranging from 10 to 15 years; $SD =$ 1.0); see Table 2. As this is a qualitative study, we anticipated that 20 interviews would be sufficient to meet the aim of our research.

In response to what we asked the youth, two main themes were identified, namely, 'understanding feelings' and 'understanding thoughts'. Each has a number of sub-themes, which will be described with illustrative quotes (see Table 3). Pseudonyms have been used throughout.

Understanding feelings

Relating to what we wanted to find out, this theme consists of the following three sub-themes: 'Do young people understand what feelings are?'; 'Do young people understand that feelings are related to events?' and 'Do young people understand that feelings effect behaviours?'.

Do young people understand what feelings are?

Thirteen young people (59%) were able to identity and define their feelings. Seven young people (32%) defined feelings as '*how you feel*', '*what you feel*', '*how you feel about something*', '*how you feel inside about someone*' or '*what you feel on the inside*'. Robin, an 11-year-old girl, said feelings are '*how you feel about yourself*'. Olivia, a 12-year-old girl, said feelings are '*what's going on inside you*' and Sophia, a 12-year-old girl, said '*it's what you feel inside but you can't describe it*'. Emma, an 11-year-old girl, described what happens in her body when she feels nervous: '*when I feel so nervous and tremble with my reading*'. Anne, a 12-year-old girl, explained '*people that hurt your feelings*' and '*hurt you with words*'. Joy, an 11-year-old girl, said '*if that person has feelings you musn't make jokes or make fun of them*'.

Table 3. Themes and sub-themes identified following deductive thematic analysis

Theme	Sub-theme
Understanding feelings	
	Do young people understand what feelings are?
	Do young people understand that feelings are related to events?
	Do young people understand that feelings effect behaviours?
Understanding thoughts	
	Do young people understand what thoughts are?
	Do young people understand that thoughts are related to events?
	Do young people understand that thoughts effect feelings and behaviours?

Do young people understand that feelings are related to events?

When asked what makes them feel happy, sad, angry or scared (anxious/nervous) all of the young people were able to relate feelings to specific situations and events. Examples that young people gave included feeling sad about the death of a family member, feeling sad or angry in response to the behaviours of others directed towards them, such as when others are rude to them, or when someone bullies, mocks or calls them names. Young people also said that other people's behaviours make them feel sad or angry, even when those behaviours are not directed towards them, such as when older children bully younger children.

Interviewer:	*what makes you feel sad?*
Emma, an 11-year-old girl:	*that is when someone dies, my family or anyone*
Interviewer:	*what makes you feel sad?*
Joy, an 11-year-old girl:	*it's when people are rude to me, when they say nasty stuff about me, and, and if children gossip about me ma'am, if my mother scolds me sometimes then I feel sad*
Interviewer:	*what makes you feel sad?*
Jessica, an 11-year-old girl:	*about my mom and my aunt and sister fight every day*

In response to the question about what makes them feel scared, anxious or nervous, some young people used words such as 'scared', 'nervous', 'anxious', 'worried' or 'shy' interchangeably to describe the feeling that they have in response to certain situations. The situations, that young people referred to, when using these words interchangeably, included going to a party where you do not know all the people, not knowing what to talk about when someone else starts talking to you, having to do an oral (a speech) or having to read in front of their class, talking in front of a group of people, or being on stage in front of people.

> *is like oral I did my oral yesterday, but I didn't feel nervous because I had cue cards with me, but without cue cards it makes me feel nervous and when I have to read then I also get a little bit nervous* (Emma, an 11-year-old girl)

Contrary to the above, when youth used the word 'scared' to describe how they feel, without using words such as nervous, anxious, worried or shy interchangeably, they spoke about being scared that something bad might happen, such as there being something in the dark, or someone breaking into the house when you are home alone. Another young person recalled a traumatic incident from her past that made her feel scared, namely, feeling scared when a drunk family member called her to sit on his lap and then touched her in a way that made her feel uncomfortable. Yet another young person recalled traumatic incidents from her past that made her feel scared (having been sexually abused, and being hit by a car), and went on to explain that certain occurrences in the present (such as seeing men, and crossing a street

by herself), make her feel scared, as these present occurrences make her think back to the past incidents.

> *like when my mom and dad are away and my brother they went somewhere I'm alone at home then uhm, I'm scared that something happens to me, that someone would break in or something, into the house* (Sophia, a 12-year-old girl)

Do young people understand that feelings effect behaviours?

When asked what they do when they feel happy, sad, angry or scared (anxious/nervous) 20 young people (91%) were able to explain what they do in response to these feelings. Examples included crying when feeling sad, angry or scared, and preferring to be by themselves, as indicated by behaviours such as sitting somewhere on your own or shutting your eyes and pulling the blankets over your head.

> *I, sit on the ground and I cry and I don't want anyone to be with me when I cry* (Amy, a 13-year-old-girl)

Contrary to those who prefer to be by themselves when they experience unpleasant feelings, other young people said they deal with unpleasant feelings by speaking to someone who can help, such as their mother, grandmother, a caregiver or a family member, the school principal, or a teacher. Youth emphasized that one should talk to someone you trust, someone who will know what to do, and that they would encourage their friends to do the same.

> *I would encourage them* [referring to her friends] *if they want to talk about their feelings, then they have to talk to someone that they trust, or someone who they know, that uhm that one won't tell anyone about how they feel, or they will have to talk to someone who is going to know what to do* (Olivia, a 12-year-old girl)

Some young people mentioned that they pray when they experience unpleasant feelings. Youth also said they try to keep themselves calm by distracting themselves from thinking about what made them feel sad, angry or scared. They said they do this by keeping themselves busy, through writing, playing games with cousins, watching television, listening to music, or playing on their cell phone.

> *I like just rebuke the spirit of angriness out, I pray* (Jamie, an 11-year-old girl)

> *I would sit in my room and listen to music or just do something to keep my thoughts off from it to feel better* (Demi, a 12-year-old girl)

Two of the young people who said they are scared of the dark, said that they switch on a light when they feel scared, while other children said they would confront that which they are scared of doing by, for example, getting up to do the talk, continuing to read in front of the class, or being the first child to stand up to receive a certificate. Youth also said that how you feel has an influence on how you behave towards others. A number of young people said that they ignore the person who made them feel sad or angry, that they walk or run away, and that they do not confront the other person. Others spoke about confronting the person who made them feel sad, angry or scared, such as by saying something to the person or hitting the person.

> Interviewer: *what do you do when you feel angry?*
> Susan, an 11-year-old girl: *then I fight.*
> Interviewer: *okay, how do you fight?*
> Susan: *I hit the children with the fist.*

Understanding thoughts

Relating to what we wanted to find out, this theme consists of the following three sub-themes: 'Do young people understand what thoughts are?'; 'Do young people understand that thoughts are related to events?' and 'Do young people understand that thoughts effect feelings and behaviours?'.

Do young people understand what thoughts are?

When asked the open-ended question, 'What does the word "thoughts" mean to you?', 16 young people (73%) were able to respond and offer a definition. Ten children (45.5%) defined thoughts as '*what you think*', '*what you think about*', '*things that you think*', '*when you think something*' or '*when you can think things*'. Samantha, an 11-year-old girl, said thoughts are '*something that you have in mind*', while Tommy, an 11-year-old boy, pointed to his head as a way of explaining what the word thoughts meant to him. Thoughts were also understood as referring to what you think of yourself or what others think of you.

> Interviewer: *and what does the word thoughts mean to you?*
> Emma, an 11-year-old girl: *it's what people think of you or what you think of yourself*

Some youth said that thoughts refer to memories of the past, and that a person can have good or sad memories. Others explained that you can have thoughts about the future, for example, thoughts about an upcoming school concert or about playing chess during the next break time at school, or thoughts about the fun things you will be doing once the school day is over.

> *thoughts for me means, thoughts for me is like what I did for the day and everything that I did, memory, so those are my thoughts and everything I have done with the people who have died and those are all my thoughts and my good things and my sad things* (Lily, an 11-year-old girl)

> *it's when you think about what you're like going to do after school or something* (Sophia, a 12-year-old girl)

Five young people (23%) were unable to define or explain thoughts. Anne, for example, a 12-year-old girl, spoke about behaviours instead of her thoughts.

Do young people understand that thoughts are related to events?

When asked what thoughts they have when they feel sad, angry or scared (anxious/nervous), eight young people (36%) mentioned behaviours instead of thoughts. Examples included going to grandma, holding onto a friend's hand, confronting the person who made you angry, not talking to anyone, screaming, or crying.

> Interviewer: *and when you feel scared? what do you think then?*
> Jessica, an 11-year-old girl: *then I go to the toilet and then I go cry I, and then I come play further*

The remaining 14 young people (64%) were able to identify thoughts associated with feeling sad, angry or scared (anxious/nervous). Examples included expecting something bad to happen, such as children laughing at you, or thinking that you will never play with or talk to a certain person again.

my thoughts are like when I make a mistake children laugh and, and, and if I do something wrong they laugh (Joy, an 11-year-old girl)

One of the girls, who recalled a past traumatic experience, said that at the time of the incident, she did not have any thoughts: '*when it happened I, thought, thought of nothing*'. Others mentioned thoughts that they have about the behaviours of those people who make them feel sad, angry or scared, for example wondering why others do what they do or whether the bullies will cause pain to the other children.

I thought my grandpa is very rude to my mom (Kevin, a 12-year-old boy)

Do young people understand that thoughts effect feelings and behaviours?
Four young people (18%) expressed a link between thoughts and/or feelings and/or behaviours. Demi, a 12-year-old girl said:

thoughts are the things that we think about but not necessarily say, like if teacher maybe asks a question in class and you think you have the answer but you don't want to say because you're scared it's wrong and then you keep quiet.

Joy, an 11-year-old girl, said: '*you need to think before you do something and, and you need to think before you say something to someone else that's rude*'. When asked what she does when she feels sad, Jamie, an 11-year-old girl, said: '*I'd rather just keep my mind off it keep me busy*'. Lucy, an 11-year-old girl, who said that she feels nervous when she has to do a performance in front of a crowd of people, identified helpful thoughts: '*I can do it I have to face my fear*'. Lucy went on to explain:

Lucy:	*and then I do it, then I do that that I, that I feared and then afterwards.*
Interviewer:	*how do you then feel afterwards?*
Lucy:	*I feel proud of myself that I did it.*

Discussion
Based on our qualitative findings, almost two-thirds of the youth that we interviewed understood the concept of feelings. All young people were able to speak about feelings more easily in context, when asked to describe situations or events that made them feel happy, sad, angry or scared (anxious/nervous). In terms of the concept of thoughts, three-quarters of youth were able to offer an understanding and highlighted how thoughts could be about themselves and what they do as well as how others perceived them. Youth understood that thoughts can relate to past and/or future events, and some identified that thoughts could be helpful or unhelpful. Two-thirds of young people were able to relate thoughts to their feelings, whilst the remaining third confused feelings and behaviours. In terms of behaviours, nearly all young people were able to explain what they do in response to feeling happy, sad, angry or scared (anxious/nervous). In terms of the interconnection, only one in five young people were able to express a link between feelings and/or thoughts and/or behaviours. Cognitive and emotional literacy is not a pre-requirement for CBT as this will be developed during the intervention. However, these results are encouraging and suggest that young people in these South African schools have sufficient cognitive and emotional development to engage in a CBT-based programme.

Young people were able to demonstrate that feelings vary and that different feelings are associated with different events. The situations that they referred to varied greatly, from

feeling sad or angry when someone insulted or teased them, feeling nervous when having to do an oral presentation, or feeling scared when recalling past traumatic incidents such as being sexually abused or hit by a car. In terms of their emotional vocabulary, feeling 'scared' was used in relation to a range of events from talking in public through to past traumatic incidents. This suggests that the use of emotional language during school-based interventions needs to be carefully considered. Programme facilitators need to plan how disclosures will be dealt with in a caring and sensitive way, should disclosures of a traumatic nature happen in the context of a classroom.

At around 11–12 years of age, young people usually begin to develop the capacity for more abstract thinking (Louw and Louw, 2014; Piaget, 1972), and as such it was expected that the young people we interviewed (with a mean age of 11.6 years) would have a reasonable understanding of the concept of thoughts. Our results are consistent with this, with three-quarters able to provide an understanding of thoughts. Similarly, emotional literacy was reasonably well developed amongst all young people, particularly when feelings were discussed within a context. However, in terms of developing and/or adapting school-based CBT interventions for this South African context, it will be important to build some preparatory work into such interventions. Particular difficulties we identified were the ability to differentiate amongst thoughts, feelings and behaviours, and to make connections between them. Whilst it was also encouraging to note that some young people mentioned helpful or unhelpful thoughts, it remains unclear whether they have the skills to test those thoughts and develop alternative thoughts, which is an important aspect of CBT (Albano and Kendall, 2002; Reynolds *et al.*, 2006; Stallard, 2019).

Strengths and limitations

A strength of this study is that we interviewed a range of young people from two public primary schools to inform the development and implementation of a CBT-based mental health early intervention in South African schools. The study did, however, have a number of limitations as well. Our sample is small, and it could be that the young people who volunteered to participate may not be representative of the wider group. As we did not screen participating youth for symptoms of anxiety and/or depression, we do not know if youth with existing mental health difficulties took part in the study or not, or whether the presence or absence of symptoms such as depression and/or anxiety might have impacted on their engagement with and/or understanding of CBT concepts. We did not screen participating youth for past experiences of trauma, and as such we also do not know how many of the participating young people experienced traumatic incidents in the past and if those experiences influenced their responses or not. Furthermore, we do not know whether any of the participating young people received any mental health support in the past, which may have helped them to become familiar with concepts such as feelings, thoughts and behaviours. Finally, our age range was wide (10–15 years) and there may be some important developmental differences between the younger and older youth which we did not detect.

Clinical and research implications

Our findings demonstrate that the sample of South African young people (aged 10–15 years), who took part in this study, are able to engage with certain key concepts of CBT. Their understanding and engagement can be enhanced through the use of concrete methods, including stories, and specific contextual questions which help to make abstract concepts accessible (Reynolds *et al.*, 2006). The importance of psychoeducation to increase young people's mental health literacy and understanding of mental health difficulties has been highlighted (Georgakakou-Koutsonikou *et al.*, 2019; Georgakakou-Koutsonikou and Williams, 2017). In addition, our findings indicate that some initial psycho-educational work needs to be built into any school-based group

programmes provided in this context to help youth understand the core concepts (such as thoughts, feelings and behaviours) that underpin the intervention. This appears particularly important in South Africa, where the education system involves mixed classes of children of different ages, development and ability. Once this shared understanding has been obtained, the relationship between the core parts of the CBT model can be strengthened and children introduced to the idea of helpful and unhelpful thoughts, an idea that was already familiar to some of the children we interviewed. In addition to building psycho-educational aspects into CBT-based universal or targeted interventions, it could also be important to develop and/or amend the content of such interventions so that it is suitable to young people, for example to focus on helping young people to understand and name feelings, and to focus on what they can do to make themselves feel better.

Future research needs to evaluate the content of early interventions and whether ideas from higher income countries are relevant within a South African context. How interventions are designed to fit within the school timetable needs to be considered too. In our participating schools, lessons were scheduled for 20–25 minutes and whether material can be covered in sufficient depth will need to be established. Similarly, resources in many South African schools are very limited with limited access to audio visual materials, the internet, and/or workbooks. This poses a challenge to ensure that interventions can be delivered in an engaging and understandable way. Finally, the efficacy of school-based mental health early interventions in South Africa is unknown and needs to be assessed.

Conclusions

There is increased focus on the importance of universal mental health interventions for primary school-aged children (Yap and Jorm, 2015). There is a need for school-based early interventions to be improved and refined, and for working towards embedding such interventions in a sustainable way within schools (Werner-Seidler *et al.*, 2021). The applicability of interventions developed in higher income countries to LMICs such as South Africa cannot be assumed. This qualitative study highlights the importance of assessing youth's ability to understand and engage with the core CBT concepts (such as feelings, thoughts and behaviours), in order to ensure that interventions (whether universal or targeted) are developmentally appropriate and accessible to all young people (Quakley *et al.*, 2004; Reynolds *et al.*, 2006; Withers, 2012). Attending to cognitive development and emotional literacy ensures that intervention content is appropriately tailored towards the needs and development of young people.

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