Developing students' mental health literacy through the use of sports' coaches

Jonathan Glazzard, Professor, Leeds Beckett University, Carnegie School of Education, Headingley Campus, Leeds, LS6 3QS j.glazzard@leedsbeckett.ac.uk

Ben Szreter, Associate Policy Advisor szreterb@gmail.com

Developing students' mental health literacy through the power of sport

Abstract

This research is an evaluation of a six week mental health literacy programme, referred to as the Cambridge United Community Trust's Mind Your Head programme, which was delivered by sports professionals to secondary aged students in Cambridge, England during 2017-18.

A Mental Health Literacy Scale was used to measure students' knowledge of mental health pre and post intervention. Statistical data from these surveys were analysed using an independent samples t-test. Focus groups were held in each school with students and individual semi-structured interviews were conducted with one lead teacher in each school.

The statistical data indicate that statistically significant improvements in mental health literacy were achieved and this occurred across all genders and ethnicities and the qualitative data suggest that this programme resulted in positive attitudes towards mental health and improved knowledge of how to seek help.

The data indicate that investment in similar programmes would be beneficial for schools in improving students' knowledge of mental health and reducing stigma.

Key words

Mental health; well-being; physical activity; sport; schools

Declarations

There are no declarations of interest.

Abbreviations

BBC British Broadcasting Corporation

DfE Department for Education

DoH Department of Health

MPVA Moderate to Vigorous Physical Activity

NSPCC National society for the Protection of Cruelty to Children

Ethics approval and consent to participate

Ethical approval was granted for this study from Leeds Beckett University. Written consent was given to participate in this research on the consent form.

Consent for publication

Written consent for publication of data was provided on the consent form. Consent to publish was approved by Leeds Beckett University ethics committee.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

Funding

There was no funding for this research.

Authors' contributions

BS conducted the statistical analysis. JG conducted and analysed the quantitative data. All authors read and approved the final manuscript.

Acknowledgements

We acknowledge the contribution s Cambridge United Community Trust, Cambridge United football club the schools and participants.

Introduction

This article presents an evaluation of a school-based mental health intervention that was implemented in Cambridge, England in 2017-18. The intervention involved the delivery of a short mental health curriculum to students in Years 8 and 9 by sports coaches employed by a football community trust. The evaluation included quantitative and qualitative data collection and analysis. The quantitative aspect involved measuring participants' mental health literacy using a pre-and post-test. The qualitative aspect involved focus group interviews with the participants. The findings demonstrated a statistically significant improvement in participants' mental health literacy and the qualitative analysis confirmed this. This paper begins by outlining our conceptualisation of mental health. It then examines the role of physical activity in mental health and explores the term 'mental health literacy'. Following this, the findings of the evaluation are presented.

Background

The World Health Organisation (2014) defines mental health as:

> …a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community. Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

It is important to acknowledge that mental health exists along a continuum which ranges from being mentally healthy to being mentally ill. Thus, mental health is more than the absence of mental illness (Keyes, 2002). The World Health Organization (2013, p. 6) has stressed that 'there is no health without mental health'. Thus, one's mental health is an essential element of being healthy, alongside their physical and social health.

Improving people's mental health has been identified as one of the most critical public health priorities (Kieling et al., 2011; Knifton and Quinn, 2013). Data from the UK Child and Adolescent Mental Health Survey published in 2004 estimated that 10% of children and young people aged 5-16 had a clinically diagnosable mental health problem. In 2017-18 18,870 children under the age of 11 were referred for specialist mental health support. This represents a rise of 5,183 (or by a third) since 2014-15 (BBC, 2018). Research suggests that half of all psychological disorders begin before the age of 14 years (Kessler et al., 2007), thus highlighting the need for early intervention. Mental health problems can reduce the likelihood of successfully completing education, securing employment, and engaging productively as a member of society, thus detrimentally impacting on life quality (Kieling et al., 2011). Worryingly, females represent the group at greatest risk of developing mental illness in one third of developed countries (World Health Organisation, 2014). According to the NSPCC approximately 1 in 6 adults in England experiences mental ill health and over 2 million children are estimated to be living with a parent who has a common mental health disorder (https://www.nspcc.org.uk).

The problem is not unique to England, or even the UK and the causes of mental ill health are multi-faceted:

> A growing body of evidence, mainly from high-income countries, has shown that there is a strong socioeconomic gradient in mental health, with people of lower socioeconomic status having a higher likelihood of developing and experiencing mental health problems. In other words, social inequalities in society are strongly linked to mental health inequalities.
>
> (Mental Health Foundation, 2016: 57)

Thus, socio-economic disadvantage acts as a psychosocial stressor and can have a detrimental impact on young people's mental health and well-being. It reduces the ability of young people to participate in activities with their peers. It is also associated with worse parental mental health, which is, in turn, a strong risk factor for poor child mental health and well-being (Education Policy Institute, 2018). Additionally, adverse childhood experiences, have a known and significant effect on children and young people's mental health. These include trauma, poor attachment, parental alcohol and drug abuse, domestic violence, neglect and abuse (House of Commons, 2018). School factors also play a role. Evidence suggests that young people who are excluded from school or in alternative provision are more likely to have a mental health need than children not in alternative provision (IPPR, 2017). High-stakes exams can also have adverse effects on young people's mental health and well-being (House of Commons, 2018). Additionally, lack of curriculum choice, particularly in secondary school, can increase stress and reduce self-esteem (House of Commons, 2018).

The Department for Education (DfE) and the Department of Health (DoH) recently published a joint Green Paper entitled, *Transforming Children and Young People's Mental Health Provision* (December 2017). Within the Green Paper both departments express a commitment to working together to improve mental health services for children and young people, especially within the school environment. The role that schools and colleges can play is also highlighted:

> There is clear evidence that schools and colleges can, and do, play a vital role in identifying mental health needs at an early stage, referring young people to specialist support and working jointly with others to support young people experiencing problems

(DfE/DoH, 2017:4).

According to the Green Paper, the two departments '…want to put schools and colleges at the heart of our efforts to intervene early and prevent problems escalating' (DfE/DoH, 2017:3). To help them do this they have committed £1.4 billion over the next five years to young people's mental health. The Green Paper proposes that every school and college should have a Designated Senior Lead who is responsible for mental health. Additionally, there are proposals to introduce Mental Health Support Teams into schools to provide support with identifying needs and intervention. Specific risk groups are identified. These include those who are looked after, those who identify as Lesbian, Gay, Bisexual and Transgender (LGBT), those in gangs and those not in education, employment or training (DfE / DoH, 2017). According to the Green Paper 'Children with a persistent mental health problem face unequal chances in life. This is one of the burning injustices of our time' (DfE / DoH, 2017, p.6). It is estimated that 850,000 children and young people experience a mental health need (DfE/DoH, 2017). Access to support is variable across the country and, for many, the support comes too late. Additionally, many children and young people do not meet the threshold criteria for a successful referral to Child and Adolescent Mental Health Services and within this context the role of schools in identifying needs early and providing early intervention is critical.

This paper provides an evaluation of a school-based mental health curriculum intervention programme which was implemented across secondary schools in Cambridge during 2017-18. The specific research question was:

What was the impact of the intervention on students' mental health literacy?

The relationship between physical activity and mental health

The inter-relationship between physical, social and psychological well-being has long been established in the literature, although the relationship between mental health and well-being is sometimes unclear. For example, in some studies well-being is viewed as a component of mental health (Hanlon & Carlisle, 2013; Huppert, 2005; Keyes, 2005) but in other publications mental health is viewed as a component of overall well-being (Lehtinen, Ozamiz, Underwood and Weiss, 2005; World Health Organization, 1946). It is generally accepted that the different components of well-being are not mutually exclusive in that they support each other. Common attributes of well-being in children and adolescents include self-esteem, subjective well-being, quality of life, and psychological resilience (Lubans et al., 2016). Additional attributes may also include confidence and motivation.

Both the physical and mental health benefits of engaging in physical activity for adults as well as children and young people, are well documented and widely and internationally accepted (Ahmed et al., 2016; Hyndman, et al., 2017; McMahon et al., 2017; Yun et al., 2017). Physical activity can enhance social and emotional functioning, health-related quality of life, and develop protective factors including self-esteem, positive social relationships, and well-being (Fraser-Thomas and Côté, 2009; Holt, 2016; Holt et al., 2017). Breslin et al., (2016) explored connections between moderate to vigorous intensity physical activity (MVPA) and the well-being of children aged 8 and 9 in Ireland from socially disadvantaged backgrounds. They concluded that:

> Children who met the MVPA guidelines had higher well-being scores than those children who did not. Specifically, every dimension of well-being was significantly

> associated with MVPA; physical well-being, psychological well-being, parent relations and autonomy, social support and school environment.
>
> (Breslin et al., 2016: 12)

This intervention focused specifically on the power of sport to improve mental health literacy. The inter-relationship between physical, social and mental wellbeing positions sport as an effective intervention for improving overall wellbeing. Sport enables young people to participate in a meaningful activity with a clearly defined goal. This helps to focus the mind and increases wellbeing. Research by McMahon et al., (2017: 120) in their study looking at European adolescence and physical activity concluded '…that moderately increasing activity in inactive adolescents could result in a meaningful improvement in well-being.'

Whilst Cambridge United's Mind Your Head project was not a physical activity intervention per se, the Mind your Head programme was designed to highlight the role of physical activity in improving mental health. Additionally, the programme was delivered by sports professionals from Cambridge United Community Trust and included the perspectives of significant sports people who talked about how they had managed their own mental health. Using sports people as champions of mental health in this way helps to break down stigma and increase young people's motivation to engage in physical activity. Recent research of this nature has focused on the role of elite athletes as mental health champions (Coyle et al, 2017). However, Swann et al., (2018) highlighted the need to increase the participation of grassroots sport in supporting young people's mental health, including community sport organisations. This project was designed to address this research gap.

Mental health literacy

The term mental health literacy was first introduced in 1997 by Jorm et al., and is defined as 'knowledge and beliefs about mental disorders which aid their recognition, management and prevention' (Jorm, et al., 1997). It is known that young people in particular have low levels of mental health literacy i.e. they have difficulties in identifying mental disorders and their underlying causes, risk factors, and associated protective factors, and can develop incorrect beliefs about the effectiveness of therapeutic interventions (Jorm et al., 2006; Kelly et al., 2007). Additionally, the stigma associated with mental health problems becomes apparent to people at an early age (Campos et al., 2018). However, research suggests that the attitudes of young people can be changed more easily than those of adults (Corrigan and Watson, 2007) and therefore school-based interventions can play a critical role in improving young people's mental health literacy through the introduction of programmes which are specifically designed to develop young people's knowledge about mental health and shape the development of positive attitudes towards it, thus reducing stigma.

Methods

The Mind Your Head programme consisted of six one-hour lessons delivered over six weeks to students in their school by coaches from Cambridge United Community Trust. In five of the six schools selected the programme was compulsory for students – full year groups participated – and therefore the students did not necessarily have any prior history with mental health problems.

The themes of the six lessons in Mind Your Head are:

1. Introduction to mental health, resilience and well-being
2. Recognising the signs of mental health concerns

3. The benefits of talking
4. Social media and its impact on our well-being
5. Coping with stress
6. Collaboration and community

The first session explored the difference between mental health and mental illness. Participants were introduced to groups that are vulnerable to developing mental ill health and they were introduced to the concept of resilience. In session 2 the students were introduced to the signs of stress, anxiety, depression, self-harm, substance abuse and eating disorders. In session 3 students were introduced to the importance of talking to and listening to others and they were given strategies to help them to talk and listen. They rehearsed strategies such as 'listening with empathy' using role-play. In session 4 the students discussed the advantages and disadvantages of social media and ways of keeping themselves safe online. In session 5 students watched videos of athletes talking about their own experiences of managing stress and how they had overcome this. In the final session the students were introduced to different ways of seeking help if they developed mental ill health.

The opportunity to strengthen partnerships between a grassroots organisation (Cambridge United Community Trust), the football club and local schools arose during 2017-18. The Mind Your Head programme was designed in partnership with Centre 33, a Cambridge-based youth counselling and mental health charity and Cambridge United Community Trust. Centre 33 staff trained the coaches from Cambridge United Community Trust and the coaches were responsible for programme delivery. The Mind Your Head intervention used active and collaborative learning as well as incorporating video content from Cambridge United's professional men's and women's footballers as well as Cambridge United scholars (16-18 year old aspiring professionals). This video content involves the footballers talking about the

main issue of the lesson with regards to their own experiences helping to provide a relatable role model discussing mental health issues in a relaxed environment.

Table 1 shows the schools and students who participated in Mind Your Head from January to July 2018.

Evaluation design

The monitoring and evaluation of Mind Your Head consisted of both quantitative and qualitative analysis of the effectiveness of the programme in meeting its key short-term measurable goal of increasing young people's mental health literacy.

The quantitative evaluation consisted of identical pre and post-programme Likert-scale questionnaires with programme participants. The anonymous questionnaires gather data on demographic information including gender, age and ethnicity, self-reported well-being and mental health literacy.

The mental health literacy of participants was measured using an adaptation of the Mental Health Literacy Scale developed by O'Connor and Casey (2015). This aims to assess both stigma measures and knowledge measures around mental health. The adaptations to O'Connor and Casey's work have removed questions asking about specific, and often complex, mental health disorders as well as questions that were inappropriate for the age-group e.g. around employment. Questions were added asking about the participants' sense of their own resilience, strategies for stress and social media use to link the questionnaire to the programme of lessons. The surveys can be seen in Appendix 1. Quantitative results were analysed through descriptive statistics and some t-tests.

Measuring mental health literacy

The measurement of mental health literacy, a 14-question Likert scale, produces 14 data-points per survey that were marked between 1 and 5 with 1 showing the lowest degree of mental health literacy and 5 the highest. One aspect of the mental health literacy survey is that seven of the questions were 'reversed' e.g. a low Likert score indicated high mental health literacy; these were reversed before scores were given.[1] 14 questions therefore produced scores between 14 and 70. To transform this into a meaningful measurement the score between 14 and 70 was expressed as a percentage of the possible score. The calculation for this is listed below and for example a score of 42 would produce a mental health literacy percentage of 50%.

$$(1)\ Mental\ health\ literacy\ percentage = \frac{Likert\ Scale\ Score - 14}{(70 - 14)} \times 100$$

The well-being scores were transformed into well-being percentages similarly.

Qualitative data were collected using focus groups with students in each of the participating schools. Individual semi-structured interviews were also conducted with teachers within each school. 570 young people aged 12-15 participated in the intervention. 8 focus groups with young people were conducted across all 6 participating secondary schools in Cambridge. 64 young people participated in the focus groups. One focus group was also conducted with the Cambridge United Scholars (aged 16-18) who were also included in the intervention. 6 teacher interviews are conducted with the lead teacher who had responsibility for coordinating the intervention in each school. All schools were based in central Cambridge,

[1] The possibility that reversed questions would affect the validity of the mental health literacy score was assessed and any effect was deemed very small.

with some schools situated in high areas of social deprivation but overall Cambridge is a city which is listed as the most unequal in the UK.[2]

Interview questions (see appendix 2) in the focus group explored the students' understanding of mental health and resilience and strategies for managing anxiety, stress and depression. The interview questions in the focus group also explored their understanding of the benefits and limitations of social media. Interviews are digitally recorded, transcribed and analysed thematically. The transcripts were coded to identify the themes. The teacher interview explored what aspects of the intervention had worked well and which aspects were less effective.

Key findings

Quantitative Data

The number of surveys administered and included in the data analysis below was 1064. Of these, 557 are pre-programme surveys and 507 are post-programme surveys. The discrepancy between the two figures is mainly due to a higher preponderance of invalid post-programme surveys as well as students who had not attended all the sessions not completing post-programme surveys. Furthermore, in one school, School 5, several students were unfortunately not present in the final lesson.

The different schools, groups of students and age-groups are listed in Table 1.

[2] https://www.centreforcities.org/wp-content/uploads/2018/01/18-01-12-Final-Full-Cities-Outlook-2018.pdf

Table 1 - Number of Pre and Post-Programme Surveys by School Type

School	Students	Year Group	Pre-surveys (N)	Post-surveys (N)
CUFC Scholars	Scholars	Age 16-18	14	11
School 1	Whole Year	Year 8	177	174
School 2	Whole Year	Year 9 & 10	133	127
School 3	Whole Year	Year 8	49	41
School 4	Targeted	Year 8 & 9	16	10
School 5	Whole Year	Year 8	109	91
School 6	Whole Year	Year 8	59	53
Total			557	507

Source: All tables and graphs are from Cambridge United Community Trust Data unless explicitly stated as otherwise.

The gender and ethnicity profile of the data is displayed in Table 2.[3] This shows that 69.2% of the respondents self-identified as white and 30.8% as anything else with the most common categories being 'Asian/Asian British' (14.9%) and 'Mixed/Multiple Ethnic Groups' (9.5%). Of all valid surveys completed 49.5% (527) listed their gender as female, 50.2% (534) were male and 0.3% (3) as 'other'.

Table 2 - Ethnicity and Gender of Survey Respondents

Ethnicity	M Pre N	M Post N	F Pre N	F Post N	% Total
Any other	1	0	5	6	1.1%
Asian/Asian British	43	41	37	37	14.9%
Black/African/Caribbean	11	13	13	14	4.8%
Mixed/Multiple Ethnic groups	26	17	27	31	9.5%
None Entered	2	0	2	1	0.5%
White	204	176	184	170	69.2%
Total	287	247	268	259	

Programme effect on mental health literacy

The overall change in mental health literacy from pre-programme surveys to post-programme surveys was 66.7% (N=557) to 72.4% (N=507). On average this represents an improvement

[3] Note that the discrepancy in total numbers of surveys is due to 3 respondents (2 pre-programme and 1 post-programme) indicating that they did not want their gender recorded.

of 5.6 percentage points in mental health literacy or an 8.4% increase from baseline.[4] A further way of understanding this change is to compare the maximum possible improvement with what the programme achieved. From a baseline of 66.7% mental health literacy on average the programme could have achieved a maximum 33.3 percentage point increase in mental health literacy were all students to achieve perfect scores after the programme. Given the 5.6 percentage point increase achieved, 16.9% of the maximum possible increase in mental health literacy was achieved through the programme on average.

An independent samples t-test indicated that the difference between the means for the pre-programme mental health literacy score and the post-programme mental health literacy score was statistically significant ($p<0.01$); this is true whether equal variances are assumed or not.[5]

The distribution of mental health literacy scores within surveyed students can be seen in Figure 1. This shows that before the programme 12.0% of students score above 80% for mental health literacy whereas after the programme this figure rises to 30.2%. This means that the programme increased the proportion of students scoring above 80% for mental health literacy by 2.5 times. Similarly, those scoring above 90% increased from 2.0% pre-programme to 6.7% post-programme; an increase by a factor of greater than 3.3 times.

The impact of the programme can also be analysed by gender and ethnicity. The data is provided in Table 3.

Table 3 shows that female participants started with a higher mental health literacy score than male participants on average (67.4% and 66.0% respectively). Female participants also saw a

[4] Slight discrepancies are due to rounding.
[5] Due to the data not being matched between pre and post-programme surveys a paired samples t-test is inappropriate.

greater increase both in percentage point change (6.0% compared to 5.3%) and in proportion of maximum change achieved (18.5% compared to 15.4%).

[Insert Figure 1 here]

Table 3 also shows that students who identified as white start with a higher mental health literacy percentage (67.3% overall) than other ethnicities; this is true both overall and for both genders listed. The improvement from pre-programme to post-programme occurs relatively evenly for both white and non-white ethnicities. Overall, those identifying as white increased 5.8 percentage points and those identifying as non-white by 5.5 percentage points. Males were more similar between white and non-white categories (5.3 and 5.2 percentage points respectively) than females where the gap was 6.3 percentage point improvement for those identifying as white and 5.7 percentage point improvement for those identifying as non-white as an aggregate group. The scores of boys identifying as 'Black/African/Caribbean' are particularly relatively low both initially (59.3%) and at the end of the programme (61.0%) representing the lowest percentage point increase across all gender and ethnic groups from pre to post-programme (1.7 percentage points). This contrasts with boys identifying as 'Mixed/Multiple Ethnic groups' starting slightly low on 64.3% but increasing significantly to 72.3% (8.0 percentage points) the highest increase of all gender and ethnic groups across the programme delivery.

The data displayed in Table 3 shows that Mind Your Head provides effectiveness across both genders listed and all ethnicities. The programme seems to be marginally more effective with those identifying as white and those identifying as female. The reason for the lower scores of those identifying as 'Black/African/Caribbean' is uncertain. The qualitative data suggest that

the intervention per se led to the improvements in mental health literacy rather than other factors. The students engaged with the content of the programme due to the delivery model; the use of sports coaches and the informal delivery approach adopted by the coaches resulted in students engaging with the content of the sessions. However, since the programme only lasts for six weeks it seems plausible and indeed likely that a student's mental health literacy is unlikely to have changed much over this period without participation in the programme.

Table 3 - Mental Health Literacy Scores by Gender and Ethnicity[6]

Gender/Ethnicity	Pre	Post	% Point Change	% of Max Change
Female (F)	**67.4%**	**73.4%**	**6.0%**	**18.5%**
Asian/Asian British F	67.3%	71.3%	4.0%	12.1%
Black/African/Caribbean F	64.0%	70.0%	6.0%	16.7%
Mixed/Multiple Ethnic groups F	66.5%	72.5%	5.9%	17.7%
White F	68.0%	74.4%	6.3%	19.8%
All Non-white F	66.1%	71.9%	5.7%	16.9%
Male (M)	**66.0%**	**71.2%**	**5.3%**	**15.4%**
Asian/Asian British M	66.1%	71.3%	5.2%	15.3%
Black/African/Caribbean M	59.3%	61.0%	1.7%	4.3%
Mixed/Multiple Ethnic groups M	64.3%	72.3%	8.0%	22.4%
White M	66.6%	71.9%	5.3%	15.8%
All Non-white M	64.4%	69.6%	5.2%	14.7%
All Genders				
Asian/Asian British	66.7%	71.3%	4.6%	13.8%
Black/African/Caribbean	61.8%	65.7%	3.8%	10.1%
Mixed/Multiple Ethnic groups	65.9%	72.4%	6.6%	19.3%
White	67.3%	73.1%	5.8%	17.7%
Non-White	65.4%	70.9%	5.5%	15.9%

[6] Note that N for each category can be seen in Table 2.

As we expected for a six-week programme the movement in self-reported well-being was minimal and all statistically insignificant. The average movement was from 62.9% to 62.8% which is statistically insignificant. Females moved from 61.7% to 61.0% and males from 64.0% to 64.6% neither of which are statistically significant. Those identifying as white moved from 63.0% to 62.4% and non-white from 62.4% to 63.7% both also statistically insignificant.

Individual mental health literacy questions

Changes in the average response to individual questions in the mental health literacy questionnaire can also be analysed. Knowledge related questions in particular scored large-differences. This can be seen in Table 4.[7] All questions move in the anticipated direction towards greater mental health literacy on average apart from question 11. The one question with a change not in the anticipated direction was around seeking help from a mental health professional if the individual responding believe that they had a mental health illness. This is an interesting response and could be caused by participants not wanting to see a medical professional. However, it could also be due to a new understanding of mental illness and when medical help is needed as a result of the programme. Either way the impact is relatively small.

[7] The data in Table 4 have been calculated so an increase in score is always associated with increasing mental health literacy even when the Likert-scale was reversed in the raw question.

Table 4 - Average Change in Mental Health Literacy Question Response sorted by percentage of maximum change achieved

Question Number	**Question**	**Percentage Point Change**	**% of Maximum Change**
4	I know strategies for dealing with stress.	15.1%	36.8%
1	I am knowledgeable about the causes of poor mental health.	12.3%	35.1%
3	I recognise the signs of poor mental health.	12.4%	31.5%
14	I am confident that I know where to seek information about mental illness.	12.4%	30.8%
2	I know strategies to help me to be resilient when faced with difficult situations.	9.5%	26.6%
5	I understand how social media impacts on my well-being.	4.6%	17.0%
7	A mental illness is a sign of personal weakness.	8.8%	13.4%
8	People with a mental illness are dangerous.	7.5%	10.4%
9	I am willing to make friends with someone with a mental illness.	1.6%	7.0%
13	People with a mental illness could snap out of it if they wanted.	5.0%	6.9%
12	Seeing a mental health professional means you are not strong enough to manage your own difficulties.	4.1%	5.3%
10	If I had a mental illness I would not tell anyone.	2.6%	4.3%
6	A mental illness is not a real medical illness.	1.6%	2.5%
11	If I had a mental illness, I would not seek help from a mental health professional.	-1.8%	-2.8%

The overall quantitative impact may be small but is subjective. It is possible that participants over-estimated their understanding at the start of the programme, thus reducing the differential between the pre-and post-scores. This makes the qualitative findings of this study more important.

Qualitative Data

The qualitative data were taken from focus groups conducted after the conclusion of the Mind Your Head programme. These data were coded, and key themes were identified. These are summarised below.

What is mental health?

Student participants demonstrated a good understanding of the differences between mental health and mental illness. They also understood that mental health exists along a continuum and that mental health can change depending on one's circumstances:

> *Everyone has mental health and it is not the same as mental illness.* (Student, Y9)

> *Mental health is good and bad. Poor mental health for example is when someone is feeling depressed. But depression is not the same as just feeling a little bit sad. When you are depressed it can stop you doing things, like you might not want to get out of bed.* (Student, Y9)

> *Depression is not the same as sadness. I have been depressed and it stopped me from going into school. It made me have anger problems. My grades went down. Depression is a form of mental illness.* (Student, Y9)

Teachers who had observed the delivery of Mind Your Head highlighted that the programme was particularly valuable in terms of raising students' general awareness of the extent of mental ill health:

> *Students now understand that the majority of people experience mental health issues at some point in their lives. They know they are not the only one to feel like this.* (Teacher, School 1)

> *They are now aware there are many people in the same situation and that they are not the only person to have experienced how they are feeling.* (Teacher, School 4)

Ways of improving mental health

Student participants demonstrated an understanding of how they could influence their own mental health. They recognised that poor mental health is not a fixed attribute and they had learned some simple, yet effective, strategies to support them in becoming mentally healthy. Some students highlighted a distrust of teachers. They felt that teachers would not uphold confidentiality and would pass the information on to other teachers or their parents. The majority of student participants preferred to speak to their friends about their feelings. Many students were able to articulate the relationship between physical activity and mental health:

> *There are ways to improve your mental health. You can talk to people who are close to you. If you have a schedule, then it keeps you more organised. Then you don't get stressed.* (Student, Y9)

> *It is really important to talk to other people. If you don't let your emotions out it will just get worse. Sometimes it is easier to talk to parents than a teacher or you can talk to people that you trust. You can also talk to your siblings. You don't have a deeply*

personal connection with your teachers like you have with your friends, so it is easier to talk to friends. (Student, Y9)

Listening to music and taking walks helps to de-stress me. (Student, Y8)

I don't want to talk to a teacher because they might tell your parents. Everyone will find out. I would rather talk to a friend. Young people are going through changes like puberty which can be stressful (Student, Y8).

Being able to open up within my peer group and to be approachable to others who are not coping. (Student, Y9)

One teacher commented that '*students now have a bank of strategies to help them to manage stress and anxiety and I have seen them using them at school. They have also told me that they use them at home*'. (Teacher, School 3)

Stress

Student participants were able to identify a range of strategies to alleviate stress. These included listening to music, engaging in physical activity, meditation and watching television. Some students recognised that stress is not always a negative attribute. They were able to identify ways in which stress helped them to be productive and to achieve goals. Students recognised that stress was a normal part of daily life and that eliminating stress from their lives might lead to a lack of productivity. Some students were also able to differentiate between stress and anxiety. Some students explained how they were more able to manage stress and how this had enabled them to perform better in assessments:

There are things that you can do to manage stress. Stress can be a good thing. It can help you to improve your performance. If you think of stress in a negative way, then it can start to affect your sleep. (Student, Y9)

If you are feeling stressed, you can do things to help. You can talk to a teacher, go for a walk, listen to music. Stress can be good and bad at the same time. (Student, Y8)

If you use your energy through exercise it can help you to manage your stress. You can do something else like watch TV to take your mind off it. Sometimes you can be stressed when there are too many deadlines, but you can try to get things done rather than letting things stack up. (Student, Y9)

I don't get stressed with revision or exams. I now organise and plan my workload better and I am doing better in exams (Student, Y9).

Vulnerable groups

The retention rate of participants in this study was excellent due to the fact the intervention was delivered in a compulsory school setting with the exception of the participants from the Scholars group. After participating in the programme all students could identify vulnerable groups who are at risk of developing mental ill health. They were also able to discuss why individuals in these groups are vulnerable. For example, they recognised that the pressures on athletes to perform to a high standard might result in stress and anxiety and that athletes who are injured and unable to participate in their sport might be at risk of developing depression. The students were all able to identify the LGBT+ group as a vulnerable group due to prejudice and discrimination which exists within society. Some students were able to articulate ways in which gender stereotypes might prevent males from expressing their

feelings, for example, the expectation that males should be *'tough'* and '*hard'* rather than *'soft':*

> *There are some groups that are more prone to developing poor mental health such as LGBT, males and athletes.* (Student, Y8)

> *It is harder for men because if they get too emotional they might feel like they should not be doing that. Men sometimes think they have to be strong. This comes from stereotypes.* (Student, Y8)

> *There are different kinds of people who are vulnerable to mental illness. For young people, things are challenging because everything is new to us like building relationships for the first time.* (Student, Y9)

> *Athletes can get injured and this can make them stressed and they may worry they are letting down their team and supporters. They have a lot of pressure to perform so they can get stressed. LGBTQ people are at risk because some people think they are different.* (Student, Y9)

Resilience

Student participants had developed a good understanding of the concept of 'resilience' through the programme, although nearly all students needed support to recall the ABC model of resilience that they had been introduced to. Student participants had understood the benefits of being resilient to adverse situations and the relationship between resilience and mindset. There was also evidence that students were beginning to demonstrate improved resilience in academic subjects as a result of the programme:

Resilience is how well you get through obstacles or your ability to cope with problems by getting help from others. You also have to be resilient in lessons when you are dealing with complex material. (Student, Y9)

Facing a situation that may be difficult by talking to others but being able to see it through with the best outcome. (Student, Y9)

Resilience is when you don't give up and you keep going with help from others. You can bounce back from things like failing a test. Resilience helps you to achieve things. It changes your mindset into a positive mindset. (Student, Y8)

I have just found out that I am not being taken on by the Club to play professionally. I am disappointed. However, these sessions have helped me to be resilient and I know that I will end up doing something useful. I will use my skills in other ways. I am going to go to University instead. (CUFC Scholars)

Teachers commented:

Students are now, as a result on the programme being more resilient in other lessons when they find things difficult. (Teacher, School 5)

Resilience does not just mean 'stickability'. It means knowing how to get help when they have problems and they are now talking to each other and to teachers about how they feel (Teacher, School 6).

Social media

The students had developed an excellent understanding of the benefits of social media and the relationship between social media use and mental ill health, including sleep deprivation,

cyberbullying and low body-esteem. They had also developed a better understanding of how to keep themselves safe online:

> *You can talk to your friends and family on social media. The disadvantages are that you can get stalked. People can create fake accounts. You can get cyber-bullied. People can hack into other people's accounts and you might not know who is communicating with you. People can become jealous of other people's lives and this can make you sad and depressed.* (Student Y9)

> *Some of the pictures can be fake so people can make out that they are leading an exciting life but really they are not and this can make others feel worthless.* (Student Y8)

> *Social media results in an expectation to show the good part of your life. It can impact on others because they think you are having a good time and they might not be having such a good time.* (Student Y9)

> *People make mean comments and it makes you feel bad. The bullying can be anonymous, and it reaches a larger audience. You can ignore the insults and carry on with your life. You can report the person or block them.* (Student Y9)

> *Men are expected to be muscular. You get upset because you think 'why don't I look like that?'* (Student Y8)

> *Social media has its advantage that you can talk to other people positively about how you feel. Its disadvantages could be when someone is being stalked, snapchat maps shows your locations and cyber bullying through text messages.* (Student Y8)

Knowledge of how to help others

The student participants identified ways in which the programme had enabled them to support their peers:

> *Being approachable and supportive. Just being there to listen to their problems can help their mental health*. (Student, Y8)

> *Listening you your friends without interrupting them is important*. *Even if I do not understand what they are going through I can just be there for them and listen to them.* (Student, Y9)

> *I know how importance is to listen to others*. *If I don't know how to help them I can take them to someone else in the school who might be able to help them*. (Student, Y9)

Discussion

The results demonstrate the beneficial impact that sports coaches and athletes can have on students' mental health literacy by delivering a short, focused mental health curriculum. The fact that students could articulate how to seek help and how to manage their own mental health at the end of the intervention was encouraging and this is likely to lead to improved mental health in the long-term. Schools should prioritise supporting students to be mentally healthy given the extent of mental ill health in young people. However, this is not without its challenges, given that schools are tasked primarily with raising students' academic attainment. Our data demonstrate that improvements in students' understanding of resilience were evident by the end of the programme. Students could articulate how their knowledge of resilience could support their academic development. We do not perceive a tension between mental health and attainment. Students who are able to manage their mental health are more likely to succeed academically and this was evident in our data. The students characterised resilience as the ability to '*keep going*' and '*get through obstacles*'. Interestingly, they also

linked resilience to help-seeking behaviours. This is a logical link because the ability to seek help can enable individuals to thrive in the face of adversity. To date the literature on resilience has associated resilience with 'bouncing back' and the ability to thrive in the face of challenges (Mohamed and Thomas, 2017). However, the existing literature insufficiently emphasises the role of help-seeking behaviour in bouncing back from challenging situations and in persevering with difficult tasks.

The quantitative analysis demonstrated statistically significant improvements to students' mental health literacy across all genders and ethnicities ($p<0.01$), although there some slight variations in the degree of improvement between different ethnic groups. Females demonstrated marginally greater increases in mental health literacy than males. The qualitative data indicate that the young people valued the delivery model, specifically the deployment of sports coaches to deliver lessons rather than teachers. This resulted in student engagement with the intervention. The students valued the informal approach to delivery, the use of videos and the opportunity to discuss issues in sessions. The combination of these factors is likely to have resulted in increases in students' mental health literacy. Changes in well-being were not statistically significant.

The qualitative data revealed a range of interesting findings. The adolescents broadly understood mental health to exist along a continuum from being mentally healthy to mentally ill. They perceived a range of mental health benefits from engagement in physical activity and they recognised other ways of improving their own mental health. Their mental health literacy improved as a result of participating in the programme. They were able to identify the signs of mental illness and they could describe ways of supporting others who experience mental ill health. They were able to identify population groups at risk of developing mental ill health. They could talk about the importance of being resilient in the face of adversity and

they were able to identify the negative effects of social media and ways of keeping themselves safe online. They valued the opportunity to develop their awareness of mental health through listening to athletes speaking about their own issues. Sport participation was reported to have both positive (e.g., therapeutic) and negative (e.g., stressful) effects on mental health (pressure to perform, performance slumps, and having less time to socialise with friends). Whilst these benefits are acknowledged, the programme does not have a significant effect on well-being in the short-term.

The schools were unanimously positive about the programme and its benefits on pupils' mental health literacy. In view of these findings we are confident that the programme could be replicated successfully in other schools.

Conclusions

Considering the research which demonstrates that improvements to mental health literacy can lead to an increased likelihood of engaging in help seeking behaviours for mental ill health and greater willingness to help others with mental health needs (Campos et al., 2018) it is possible that the programme delivered in Cambridge will lead to improvements help-seeking behaviours in the future. Overall, Mind Your Head is clearly valued by pupils and schools and delivers measurable, statistically significant improvements in Mental Health Literacy across all genders and ethnicities. This research has implications for schools seeking to develop collaborations with grassroots organisations such as community sport organisations. The clear benefit of schools working in partnership with community organisations is these partnerships facilitate a non-stigmatising setting for mental health discussions and awareness-raising. The students attributed the success of the programme to the delivery model. They valued the opportunity to learn about mental health from sports coaches and they enjoyed

listening to authentic accounts of mental health from athletes who they held in high regard.

These factors resulted in high levels of student engagement within the sessions.

References

Ahmed, Md D., Ho, W.KY., Zazed, K., Van Niekerk, R.L., Lee, J-Y.L. (2016) The adolescent age transition and the impact of physical activity on perceptions of success, self-esteem and well-being, *Journal of Physical Education and Sport (JPES)*, 16, (3), 124, 776 – 784.

BBC (14th May 2018), *Sharp rise under-11s referred for mental health help*, by Hannah Richardson, http://www.bbc.co.uk/news/education-44083625 [accessed 16.06.18].

Breslin, G., Fitzpatrick, B., Brennan, D., Shannon, S., Rafferty, R., O'Brien, W., Belton, S., Chambers, F., Haughey, T., McCullagh, D., Gormley, R., & Hanna, D. (2016), Physical activity and well-being of 8-9 year old children from social disadvantage: An all-Ireland approach to health, *Mental Health and Physical Activity*, 13, 9-14.

Campos, L., Dias, P., Duarte, A., Veiga, E., Camila Dias, C and Palh, F. (2018), Is It Possible to "Find Space for Mental Health" in Young People? Effectiveness of a School-Based Mental Health Literacy Promotion Program, *International Journal of Environmental Research and Public Health*, 15, (7), 1426, 1-12.

Corrigan, P., and Watson, A. (2007), *How children stigmatize people with mental illness. International Journal of Social Psychiatry*, 53, (6), 526–546.

Coyle, M., Gorczynski, P., & Gibson, K. (2017). "You have to be mental to jump off a board any way": Elite divers' conceptualizations and perceptions of mental health, *Psychology of Sport and Exercise*, 29, 10-18.

DfE/DoH (December 2017) Transforming Children and Young People's Mental Health Provision: a Green Paper, Crown Copyright, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664855/Transforming_children_and_young_people_s_mental_health_provision.pdf [accessed 11.06.18].

Education Policy Institute (2018), *Written evidence from the Education Policy Institute*, SGP0007.

Fraser-Thomas, J., & Côté, J. (2009), Understanding adolescents' positive and negative developmental experiences in sport, *The Sport Psychologist*, 23(1), 3–23.

Hanlon, P., and Carlisle, S. (2013), Positive mental health and well-being: Connecting individual, social and global levels of well-being. In L. Knifton, & N. Quinn (Eds.). *Public mental health: Global perspectives*, pp. 3–11, Berkshire, UK: McGraw Hill.

Holt, N. (2016*), Positive youth development through sport*, (2nd ed), London: Routledge.

House of Commons (2018), T*he Government's Green Paper on mental health: failing a generation*, House of Commons Education and Health and Social Care Committees.

Huppert, F. A. (2005), Positive mental health in individuals and populations, In F. A. Huppert, N. Baylis, & B. Keverne (Eds.), *The science of well-being*, pp. 307–340, Oxford, UK: Oxford University Press.

Hyndman, B., Benson, A. C., Lester, L., and Telford, A. (2017), Is there a relationship between primary school children's enjoyment of recess physical activities and health-related quality of life? A cross-sectional exploratory study, *Health Promotion Journal of Australia*, 28, (1), 37–43.

Institute for Public Policy Research (IPPR), (2017), *Making the Difference: Breaking the Link Between School Exclusion and Social Exclusion*, London, IPPR.

Jorm, A., Korten, A., Jacomb, P., Christensen, H., Rodgers, B., and Pollitt, P. (1997), "Mental health literacy": A survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. *The Medical Journal of Australia*, 166, (4), 182–186.

Jorm, A.F., Barney, L.J.,Christensen, H., Highet, N.J., Kelly, C.M., and Kitchener, B.A. (2006), Research on mental health literacy: What we know and what we still need to know, *The Australia and New Zealand Journal of Psychiatry*, 40, (1), 3–5.

Kelly, C.M., Jorm, A.F., and Wright, A. (2007), Improving mental health literacy as a strategy to facilitate early intervention for mental disorders, *The Medical Journal of Australia*, 187, (7), 26–30.

Kessler, R. C., Angermeyer, M., Anthony, J. C., De Graaf, R. O. N., Demyttenaere, K., Gasquet, I., et al., (2007), Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative, *World Psychiatry*, 6, (3), 168–176.

Keyes, C. L. M. (2002), The mental health continuum: From languishing to flourishing in life, *Journal of Health and Social Behavior*, 43, (2), 207–222.

Keyes, C. L. M. (2005), Mental illness and/or mental health? Investigating axioms of the complete state model of health, *Journal of Consulting and Clinical Psychology*, 73, (3), 539–548.

Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., et al., (2011), Child and adolescent mental health worldwide: Evidence for action, *The Lancet*, 378, (9801), 1515–1525.

Knifton, L., and Quinn, N. (2013), *Public mental health: Global perspectives*, Berkshire, UK: McGraw Hill.

Lehtinen, V., Ozamiz, A., Underwood, L., and Weiss, M. (2005), The intrinsic value of mental health, In H. Herrman, S. Saxena, & R. Moodie (Eds.*), Promoting mental health: Concepts, emerging evidence, practice*, pp. 46–58, Geneva, Switzerland: World Health Organization Press.

Lubans, D., Richards, J., Hillman, C., Faulkner, G., Beauchamp, M., Nilsson, M., et al., (2016), Physical activity for cognitive and mental health in youth: A systematic review of mechanisms, *Pediatrics*, 138, (3).

McMahon, E., Corcoran, P.,and O'Regan, G., et al., (2017), Physical activity in European adolescents and associations with anxiety, depression and well-being, *European Child and Adolescent Psychiatry*, 26, (1), 111-122.

Mohamed, S., and Thomas, M. (2017), The mental health and psychological well-being of refugee children and young people: an exploration of risk, resilience and protective factors, *Educational Psychology in Practice*, 33, (3), 249-263.

Mental Health Foundation (MHF) (2016) *Fundamental Facts About Mental Health 2016*. Mental Health Foundation: London.

O'Connor M., AND Casey L. (2015), The Mental Health Literacy Scale (MHLS): A new scale-based measure of mental health literacy, Psychiatry Research. 229, (1-2), 511-516.

Public Health England, (2015), *Measuring Mental Well-being in Children and Young People*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/611494/Measuring_mental_wellbeing_in_children_and_young_people.pdf [Accessed 27 Sept 18]

Swann, C., Telentac, J., Draperc, G., Liddlea, S., Fogartyd, A., Hurleya, D., and Vellaa, S., (2018), Youth sport as a context for supporting mental health: Adolescent male perspectives, *Psychology of Sport & Exercise*, 35, 55–64

Warwick-Edinburgh Mental Well-being Scale (WEMWBS), https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs [accessed 27 Sept 18]

World Health Organisation (WHO), (2014), *Mental Health: a state of well-being*, http://www.who.int/features/factfiles/mental_health/en/ [accessed 08.08.18].
World Health Organization (1946). Constitution of the world health organization. [Retrieved from http://www.who.int/governance/eb/who_constitution_en.pdf].

World Health Organization (2013), *Mental health action plan 2013–2020*, Geneva, Switzerland: Author.

Yun Wu, X., Hui Han, L., Zhang, J. H., Luo, S., Hu, J. W. and Sun, K. (2017), The influence of physical activity, sedentary behaviour on health-related quality of life among the general population of children and adolescents: A systematic review, PLoS ONE 12 (11): e0187668; November 9th, 2017. https://doi.org/10.1371/journal. pone.0187668

List of Figures

Appendix 1 - Surveys used with participants

1. **School:**

2. **Form group**

3. **Date of birth:**

4. **School Year:**

5. **Gender, please circle one:**

a. Female

b. Male

c. Any other, please describe:

6. **Ethnicity, please circle one:**

a. White

b. Mixed / Multiple Ethnic groups

c. Asian / Asian British

d. Black / African / Caribbean

e. Any other ethnic group, please describe:

Well-being

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future.					
I've been feeling useful.					
I've been feeling relaxed.					
I've been feeling interested in other people.					
I've had energy to spare.					
I've been dealing with problems well.					
I've been thinking clearly.					
I've been feeling good about myself.					
I've been feeling close to other people.					
I've been feeling confident.					
I've been able to make up my own mind about things.					
I've been feeling loved.					
I've been interested in new things.					
I've been feeling cheerful.					

Mental Health Literacy

Please tick the box that best describes to what extent you agree with the following statements:

STATEMENTS	Strongly Disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
I am knowledgeable about the causes of poor mental health.					
I know strategies to help me to be resilient when faced with difficult situations.					
I recognise the signs of poor mental health.					
I know strategies for dealing with stress.					
I understand how social media impacts on my wellbeing.					
A mental illness is not a real medical illness.					
A mental illness is a sign of personal weakness.					
People with a mental illness are dangerous.					
I am willing to make friends with someone with a mental illness.					
If I had a mental illness I would not tell anyone.					
If I had a mental illness, I would not seek help from a mental health professional.					
Seeing a mental health professional means you are not strong enough to manage your own difficulties.					
People with a mental illness could snap out of it if they wanted.					
I am confident that I know where to seek information about mental illness.					

Appendix 2 – Focus group questions

Students

1. Did the sessions improve your knowledge of mental health? If so tell me how.
2. What did you learn about resilience?
3. Have you benefitted from learning about resilience? Say how.
4. What did you learn about social media and mental health?
5. Have you benefitted from learning about social media and mental health? Say how.
6. What did you learn about coping with stress and how has this helped you?
7. What did you learn about the value of talking to others?
8. What did you learn about the role of collaborating with others as a way of improving mental health?
9. What were the best sessions?
10. Which aspects of the programme could be improved and why?
11. Was there anything missing from the programme?

Focus group with the teachers / workshop leader:

1. What did the students learn from the programme?
2. Which aspects of the programme worked well? What were the best sessions?
3. Were there any sessions that were less effective? Say why.
4. Was anything missing from the programme?
5. What challenges did you face in delivering the programme?