The role of mental health literacy programs in improving education staff's recognition and referrals of adolescents with mental health difficulties.

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Abstract

Background: Given the burden that mental health conditions in early life can have on adolescent development, finding ways to encourage early recognition and support is key to reducing the impact on the individual and society as a whole. With the increased demand on schools and colleges to support adolescents with mental health difficulties, mental health literacy programs for education staff are an important avenue of research which could impact upon recognition and referrals.

Method: A systematic review was conducted to determine barriers and facilitators to implementing mental health literacy programs for education staff working with adolescents with mental health difficulties. An empirical study explored the feasibility of a new online mental health literacy program to identify and accurately refer adolescents with depression.

Results: Twenty-two studies were included from the review. Eight themes of barriers and facilitators were uncovered. These were categorised into program characteristics, provider characteristics and community factors. Key implementation factors which may impact long term sustainability included co-production of programs and train-the-trainer models. The empirical study recruited 29 participants. We found self-rated confidence in recognising and referring adolescents with depression increased after the intervention. Preliminary efficacy showed an increase of referral accuracy on vignettes of students not experiencing depression (pre to post) but changes on vignettes of students with 'mild/moderate' and 'severe' depression showed small effect sizes. The study was feasible in the context of the Covid-19 pandemic and participants found the training and research process acceptable.

Conclusions: Given the proven effectiveness of mental health literacy programs on education staff's knowledge and intention to refer adolescents with mental health difficulties, focus of researchers needs to shift towards optimising design and delivery to best support those in need long term. Despite notable limitations in both studies, implications for the future sustainability of these interventions are discussed throughout.

Table of Contents

List of Tables

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CHAPTER ONE

Introduction to the Thesis Portfolio

Introduction

In the UK, approximately 9% of 11–16-year-olds and 15% of young people aged 17-19 have a diagnosable emotional disorder such as anxiety or depression (Vizard et al, 2018). Despite that, only a quarter will access specialist mental health services during this time (Hagell, Coleman & Brooks, 2013). Reasons as to why this number is so low has been attributed to multiple barriers including lack of knowledge of available services, difficult access to these services and stress associated with help-seeking behaviours (Gulliver et al, 2010). Though these are influential, the first barrier to adolescents receiving mental health support is often recognised as the under-identification of need (Anderson et al, 2017). The World Health Organisation recognises the importance of early detection and treatment of mental health conditions in order to avoid institutionalisation and over-medicalisation in the future (WHO, 2021). However, the implementation of interventions and services dedicated to adolescent mental health during this critical period has fallen short (Colizzi, Lasalvia & Ruggeri, 2020). Adolescents are known to struggle to access support from others due to various factors including difficulty accessing help, stigma and negative perceptions (Salaheddin & Mason, 2016), which means there is a reliance on gatekeepers (such as parents, teachers, GPs) to recognise and refer on their behalf. Unfortunately, it is estimated that gatekeepers identify fewer than one in five adolescents with mental health difficulties (Levitt, Saka, Romanelli & Hoagwood, 2007). Until there is improved detection of these difficulties during adolescence, there is a poor chance of reducing the unmet need for mental health care, both in the UK and globally (Soneson et al, 2020).

In recent years, services at multiple levels have been pushed to improve recognition and referrals of mental health difficulties in adolescents to ensure an adequate response (Department of Health and Department for education, 2017). It is known that primary care professionals often do not make referrals to specialist services (O'Brien et al, 2016) largely impacted upon by poor or absent training (MIND, 2016), while specialist child and adolescent mental health services have significant

capacity problems to tackle this unmet need (Frith, 2016). Considering these challenges, schools have become one of the most commonly accessed forms of mental health support for adolescents (Soneson et al, 2020). In countries where universal education is available, schools are well placed to identify adolescents with emotional problems (Patel et al, 2018) given the significant periods of time young people spend there. This is echoed in the UK by recent policy directives on schools and colleges to promote child and adolescent mental health (Education and Health Committees, 2017) and new provisional guidelines by the National Institute for Health and Care Excellence (NICE) for teachers and support staff to be able to recognise young people's pastoral and mental health needs and importantly, be provided with additional training or support in order to do so (NICE, 2022).

The need for additional support to help adolescent mental health has been recognised by teachers themselves (Shelemy, Harvey & Waite, 2019), with 85% feeling the need for further mental health training (Moon Williford & Mendenhall, 2017). With whole-school approaches to mental health becoming an increasing focus, all education staff are required to have a high level of mental health literacy in order to promote positive mental health, engage in identification and referral procedures as well as signpost to support and external agencies (Mansfield, Humphrey & Patalay, 2021). There have been various mental health literacy programs designed with education staff to improve these areas, though optimising outcomes while balancing against significant barriers such as time, cost, and resources (Soneson et al, 2020) is not always considered. Focusing on ways to improve the cost-effectiveness and longevity of these programs will be important to ensure outcomes are maintained and adolescents in need continue to receive adequate mental health support from schools so that they are given the best opportunity to thrive in the future.

This thesis aimed to focus on the areas of optimising mental health literacy programs with education staff to improve recognition and referrals of adolescents with mental health difficulties. To tackle the gaps in the literature, a comprehensive systematic review is presented in Chapter Two which focuses on the barriers and facilitators of mental health literacy programs for education staff

working with adolescents aged 10-19. Chapter Four reports on the feasibility of a brief online mental health literacy program designed to improve recognition and referral accuracy of adolescents with depression. Theoretical and contextual links between the systematic review and empirical paper are elaborated upon in a bridging chapter in Chapter Three. Chapters Five and Six present additional methodology and results which could not be included during preparation for publication. Finally, Chapter Seven provides an integration of findings from both papers alongside a discussion of implications and directions for future research. Strengths and limitations of the thesis portfolio as a whole are presented.

CHAPTER TWO

Systematic Review

Prepared for submission to Child and Adolescent Mental Health

(For Author requirements see Appendix A)

Word Count: 4690 (not including abstract, tables, figures or references)

Systematic review and thematic synthesis of barriers and facilitators to implementing mental health literacy programs for education staff working with adolescents.

Running Title:

Mental health literacy in schools

Authors:

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Abstract

Aim: To facilitate increased provision of mental health support in education settings across the globe, successfully implemented mental health literacy programs are needed with the majority of mental health disorders first emerging during adolescence. We aimed to answer the question: 'What are the barriers and facilitators to implementing mental health literacy programs for education staff working with adolescents aged 10-19?'

Methods: A systematic review was conducted. Relevant studies were included if they: (a) described a mental health literacy program as defined by Jorm (2012), (b) were conducted with education staff who worked predominantly with adolescents aged 10-19, (c) reported on barriers and/or facilitators of the mental health literacy program (d) had an interventional design and (e) were published in the English language. The data was thematically synthesised in accordance with the Ecological Framework for Effective Implementation.

Results: Twenty-two studies met the inclusion criteria, fourteen from high income countries, and eight from low or middle-income countries. We generated eight themes, grouped as follows; 'Program Characteristics' (themes of 'design' and 'content'), 'Provider Characteristics' ('school backing', 'skilled trainers' and 'pre-existing interventions') and 'Community Factors' ('Culturally/locally relevant', 'matches government mental health priorities' and 'benefitting community knowledge').

Conclusions: Common barriers related to logistical issues with delivery of programs. Facilitators for implementation were numerous, including collaboration with education providers at multiple levels and use of blended learning strategies. Sustainability factors were key to the design of mental health literacy programs so that these interventions are implemented effectively.

Key practitioner Message

- We found that delivery of mental health literacy programs is a complex multi-level challenge, especially when considering longevity of the intervention and its benefits for education staff and adolescents for the future.

- A common problem is the trade-off between education staff wanting longer programs as they recognise the value, yet time-consuming interventions suffer logistically.

- We found evidence of two key implementation factors which may aid long-term acceptability of these programs: co-production of mental health literacy programs by education providers and train-the-trainer models.

- The train-the-trainer model appears to be a sustainable solution to the maintenance of knowledge acquisition for the future.

- Despite themes on barriers and facilitators being similar across high and low-and-middle income countries, mental health literacy programs in low-and-middle income countries were often western-based and needed to factor in elements such as mental health stigma, cultural and spiritual views of mental health and typical teaching methods in that country or area.

- Research on mental health literacy has stressed that programs must be context specific, developmentally appropriate, tailored to the target population and effectively integrated into social and organisational structures.

Introduction

Many mental health disorders experienced over a lifetime begin during adolescence (WHO, 2018). Mental health conditions in early life can be an incredible burden (Vigo, Thornicroft & Atun, 2016), negatively impacting adolescent development and quality of life within this life stage (Schulte-Korne, 2016). Furthermore, mental health difficulties during adolescence are a known predictor of drug and alcohol abuse, risky sexual behaviour, poor academic outcomes, and physical health issues in later life (Johnson et al, 2018; Naicker et al, 2013 Wickersham et al, 2021), posing a significant public health problem around the world.

Finding ways to encourage the early recognition and support of adolescents with mental health difficulties is key to reducing the impact they have on the individual and society. Adolescents rarely self-refer or seek out mental health professionals for support about their mental health problems (O'Connell, Pote & Shafran, 2021). This is especially true in Low-and-Middle-Income Countries (LMICs; defined as economics per capita gross national income lower than an annually set threshold by the World Bank, 2020) where there is a significant lack of mental health resources, infrastructures and knowledge on mental health (Malhotra & Patra, 2014; Patel et al, 2013), all of which contribute to decreased and delayed treatment seeking (Wei et al, 2013). Due to the large amount of time adolescents spend in schools, education staff are in a unique position to help identify mental health problems and support help-seeking behaviour (Johnson et al, 2011; O'Connell et al, 2021).

In the UK, there is an increased demand and expectation on schools and colleges to have a greater role in recognising and supporting adolescents with mental health disorders through increasing staff's mental health literacy (Department of Education, 2018; Department of Health and Education, 2017; Department of Health and NHS England, 2015) and similar government guidelines are being published across the globe as countries recognise the impact of mental health on their

adolescent population and the role schools may play in reducing the burden. Research shows that teachers and other education staff are ideally placed to facilitate early recognition and improve access to further care for young people with mental health difficulties (O'Connell et al, 2021).

Mental health literacy (MHL) is defined as "knowledge and beliefs about mental health problems which aid their recognition, management and prevention (Jorm et al, 1997; Jorm, 2012). MHL programs are interventions which teach individuals how to maintain positive mental health; understand mental disorders and their treatments; decrease stigma related to mental health disorders; and enhance help-seeking efficacy, both for themselves and others (Jorm, 2012; Kutcher, Bagnell & Wei, 2015; Wei & Kutcher, 2014a). Those who are more knowledgeable about mental health problems tend to help people experiencing them more readily and can provide accurate and appropriate support when needed (Rosetto, Jorm & Reavley, 2016).

Unfortunately, research shows that education staff have poor confidence and ability to recognise mental health difficulties in adolescents (Neil & Smith, 2017; Shelemy, Harvey & Waite, 2019). MHL programs are a group of interventions which have been shown to impact on both confidence and knowledge acquisition. A systematic review into the effectiveness of MHL programs with teachers (Yamaguchi et al, 2020), found many studies reported a statistically significant improvement in teacher knowledge, stigma, helping behaviour and/or confidence in helping students, yet found the quality of the studies to be low overall. Few of the included studies conducted follow-up measurements, leading to difficulties judging whether improvements were maintained over time. It is also known that effective interventions are often unsuccessfully adopted due to poor consideration of compatibility and pedagogy within the education settings with which they are used (Proctor et al, 2009).

Therefore, to intervene against high rates of mental health problems and to do so in a timely manner, effective training for education staff appears essential given their regular contact with the vast majority of adolescents across the globe. MHL programs appear to be an effective way to do this.

Evaluating successful implementation factors of MHL programs are needed to help guide the increasing provision of mental health support in education settings globally. Therefore, this review aims to answer the research question: 'What are the barriers and facilitators to implementation of MHL programs for education staff working with adolescents aged 10-19?

Method

Design

We conducted a systematic review which we pre-registered (PROSPERO 2021 CRD42021271011). We synthesised the findings from the included papers thematically to elicit rigorous analytical abstraction of themes around barriers and facilitators in eligible studies (Thomas & Harden, 2008). Key features of the systematic review process were retained.

Search Strategy

Relevant studies were identified by searching 5 electronic databases (MEDLINE, PsychINFO, CINAHL, ERIC and British Education Index) from inception to September 2021. The search strategy (See Appendix A) was refined following initial scoping reviews and through consultation with the research team and other reviews which focused on concepts of MHL (Anderson et al, 2019; Yamaguchi et al, 2020). In addition, reference lists of relevant studies were hand-searched to locate studies which were missed in the search strategy.

Eligibility Criteria

Relevant studies were included if they met the following criteria: (a) the study described a MHL program as defined by Jorm (2012), (b) the study was conducted with education staff who

worked predominantly with adolescents aged 10-19, (c) the study reported on barriers and/or facilitators of the MHL program (d) the study had an interventional design and (e) the study was published in the English language. The age range of 10-19 was selected based on World Health organisation definition of adolescence (WHO, 2021).

Observational studies of MHL programs that were already part of routine practice were not included. Studies which included adolescents as a target population were included as long as education staff were also a target group and separate findings on barriers and facilitators for them were reported. Studies of interventions within universities or other higher education institutions were not included.

Study Selection

A database of titles and abstracts of studies from the search strategy was created. Following removal of duplicates, all titles and abstracts were independently reviewed by two reviewers (BC and RA) separately. Agreement between reviewers BC and RA on title/abstract screening was deemed to be 'moderate' following Cohen's Kappa assessment (kappa =0.44) and discrepancies were dealt with by discussion between reviewers. Full texts of articles deemed potentially relevant were obtained and assessed for eligibility independently by the same two reviewers. Agreement on full text screening was considered 'near perfect' between authors BC and RA (kappa = 0.92). Any disagreements between the two reviewers at full text stage were discussed with LP, KM and ML and consensus decisions reached. In the case of missing information, study authors were contacted by BC. A flow diagram of the selection process was maintained in line with PRISMA guidance (Moher et al, 2015).

Data Extraction

For each article included, the following data was extracted by author BC: first author, year of publication, study design, location of study (country), subject of study (professional role), type of education setting/s (e.g., secondary, sixth form etc.), type of MHL programs (e.g., online, group etc.) and target of intervention (e.g., Increase depression knowledge, increase referral accuracy etc.).

A formal assessment of the scientific quality or biases of the selected studies was not conducted. This was not deemed to be appropriate for this review as knowledge of barriers and facilitators to implementation of MHL programs was not dependent on the validity of the study design used to examine their effectiveness.

Data Synthesis

A thematic synthesis (Thomas & Harden, 2008) of barriers and facilitators of MHL programs was conducted to elicit rigorous analytical abstraction of themes around the barriers and facilitators in eligible studies. This included extraction of text quotations from the studies included as well as author interpretation inputted into a coding matrix. Authors BC and RA uncovered quotes from included studies separately and BC inputted them into the matrix. Any queries were discussed between the two authors.

Codes were initially organised into descriptive themes by BC and RA with quotes to facilitate an inductive process. Patterns of descriptive themes represented within articles were then grouped into analytical themes and subthemes that fitted within the Ecological Framework for Effective Implementation (Durlak & Dupre, 2008). This framework was selected after the initial descriptive themes were present to ensure that the data was not influenced by any author's prior assumption. It is a determinant framework (Nilsen, 2015) which hypothesises that an organisation's success at implementation is dependent on factors present in three categories that provide an extended

ecological and multilevel context for implementation. These categories are program characteristics, provider (non-research staff) characteristics and community factors. This framework has been used in a similar thematic synthesis within schools and colleges (Gee et al, 2019) which supported its appropriateness for use.

In describing the themes generated, we paid particular attention to considering any differences in themes between studies from High Income Countries (HICs; according to the World Bank Grouping, 2020) and LMICs.

Results

Characteristics of Included Studies

The search strategy returned 21 unique studies relevant to this review and one additional study identified through hand searching (see Figure 2.1). Details of the 22 included studies are shown in Table 2.1.

Studies were published between 2000 and 2021. Fourteen studies were based in HICs, with eight based in LMICs (See Figure 2.2). Sixteen out of 22 studies (73%) utilised a pre-post single-arm design, while six used a randomised controlled trial (five cluster, one non-cluster). Twelve studies (55%) were conducted only with teachers, with the rest a combination of teachers and other education staff. Two studies included participants from other education settings (two elementary schools) outside of the 10-19 pupil age group, but in these studies majority of education staff worked predominantly with adolescents within the target age range of 10-19. One study was conducted online, while the rest were in-person groups. One of the in-person groups did not use a program trainer, instead instructing participants to watch a DVD.

Figure 2.1

PRISMA flowchart

Studies identified through database searches K=8,048		Studies found through hand searching K=1

Duplicate studies removed

K=2,145

Studies screened by title and abstract

K=5,903

Studies excluded

K=5,851

Full texts assessed for eligibility

K=52

Full texts excluded

K=31

K=14 not with education staff
K=8 only primary/elementary schools
K=6 non-mental health literacy programs
K=2 non-intervention design
K=1 no reporting of barriers/ facilitators

Studies included

K=22
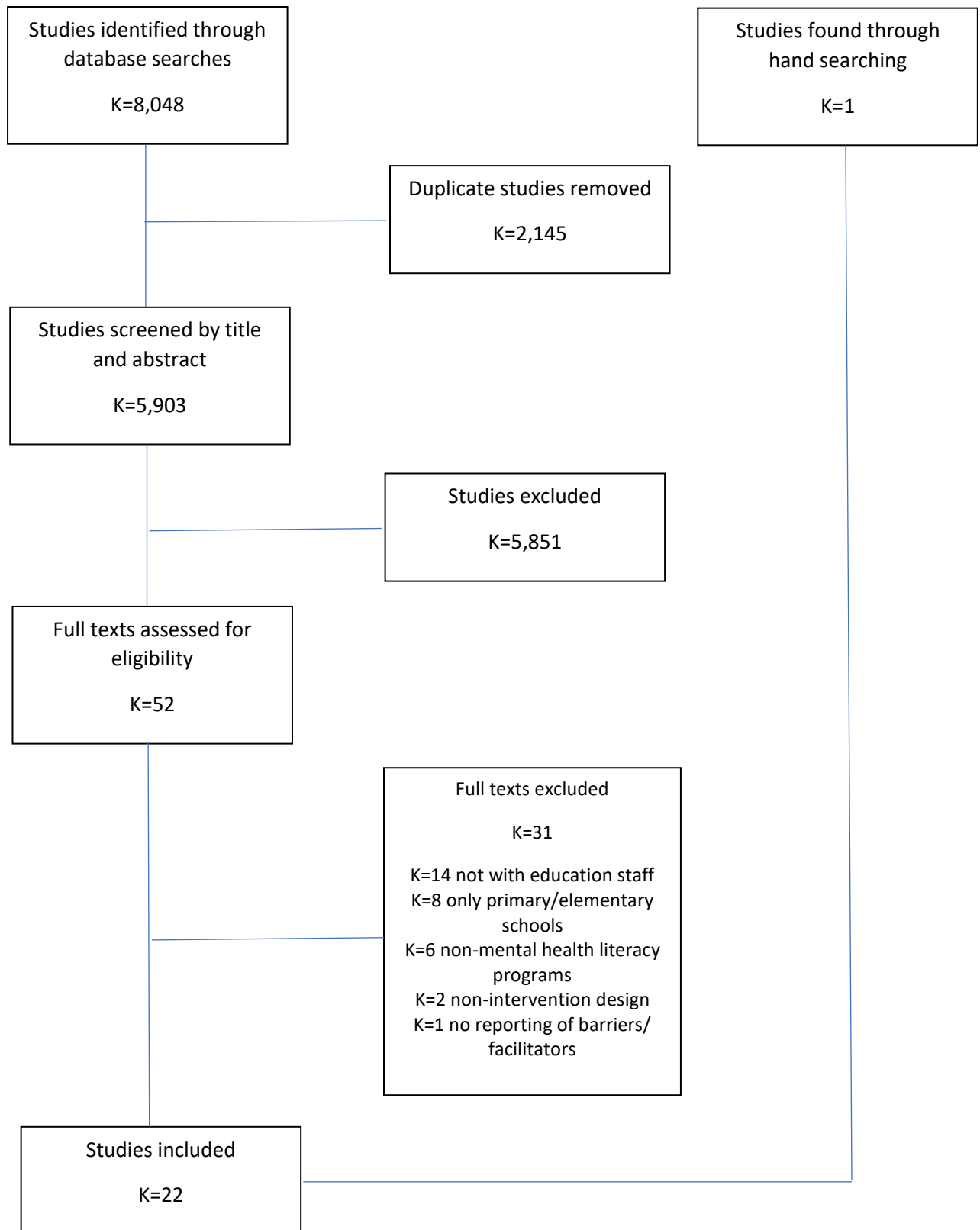
Table 2.1.

Characteristics of Included Studies.

Main author	Year	Country	Study design	Target groups	Setting(s)	Type of MHL program (Name If given)	Target of intervention
Amaral	2020	Portugal (HIC)	Pre/Post Design	Teachers	Schools in 2nd/3rd cycle (pupils aged 10-15)	In-person group (ProMentaSã)	Promote mental health, early identification of mental health in children and adolescents, increase referral accuracy and highlight importance of wellbeing and healthy lifestyles.
Brick	2021	Libya (LMIC)	Pre/Post Design	Science teachers	Secondary school	In-person group	Increase teacher awareness of student mental health issues and produce change in teacher attitudes and classroom practices.
Eustache	2017	Haiti (LMIC)	Pre/Post Design	Teachers	Secondary schools	In-person group (TAPS)	Improve knowledge and attitudes relevant to school mental health.
Fisher	2020	UK (HIC)	Cluster RCT	Teachers and support staff	Secondary schools	In-person group (Mental Health First Aid)	Improve teacher/student wellbeing, improve teacher performance and attendance at work and student attendance and attainment.
Jorm	2010	Australia (HIC)	Cluster RCT	Teachers and support staff	Secondary schools	In-person group (Mental Health First Aid)	Improve teacher mental health knowledge.
Kidger	2016	UK (HIC)	Cluster RCT	All school staff	Secondary schools	In-person group (Mental Health First Aid)	Improve teacher/student wellbeing, improve teacher performance and attendance at work, and student attendance and attainment.

Kumar	2019	India (LMIC)	Pre/Post Design	Teachers	Secondary schools	In-person group	Improve knowledge on adolescent psychological problems
Kutcher	2014	Canada (HIC)	Pre/Post Design	Teachers and support staff	Secondary schools	In-person group (Mental Health Curriculum Guide)	Increase teachers' mental health knowledge and attitudes towards mental health
Kutcher	2015	Malawi (LMIC)	Pre/Post Design	Teachers	Primary, secondary schools	In-person group (The African Guide: Malawi Version)	Improve mental health knowledge, stigma reduction, and help-seeking efficacy (for self, students, and others)
Kutcher	2016	Tanzania (LMIC)	Pre/Post Design	Teachers	Secondary schools	In-person group (The Guide)	Improve mental health knowledge, stigma reduction, and help-seeking efficacy (for self, students, and others)
Martinez	2015	Chile (HIC)	Pre/Post Design	Teachers, school psychologists, school counselors and school social workers	Secondary schools	In-person group	Increase school staff mental health knowledge.
Moor	2000	UK (HIC)	Pre/Post Design	Teachers	Secondary schools	In-person group	Increase teachers' ability to recognise clinically depressed pupils.
Moor	2007	UK (HIC)	RCT	Teachers	Secondary schools	In-person group	Increase teachers' ability to recognise clinically depressed pupils
Nguyen (a)	2020	Vietnam (LMIC)	Cluster RCT	Teachers	Secondary schools	In-person group (The Guide)	Promote mental health, improve knowledge of mental disorders and treatments, decrease stigma, and enhance help-seeking

Author	Year	Country	Design	Participants	Setting	Delivery	Aim
Nguyen (b)	2020	Cambodia (LMIC)	Pre/Post Design	School Staff (teachers, counsellors, principals)	Secondary schools	In-person group (The Guide)	Promote mental health, improve knowledge of mental disorders and treatments, decrease stigma, and enhance help-seeking
Robinson-Link	2020	USA (HIC)	Pre/Post Design	Teachers	Elementary, middle, high schools	Online (Kognito)	Increase mental health beliefs (preparedness and self-efficacy) and behavioural intention to intervene with youth in psychological distress.
Townsend	2018	Australia (HIC)	Pre/Post Design	Teachers	Secondary schools	In-person group (Project Air Strategy)	Increase teachers' ability and confidence to respond to students with complex mental health presentations
Ueda	2021	Japan (HIC)	RCT	Teachers	Secondary schools	In-person group (DVD)	Increase teachers' knowledge of and reduce stigma of mental illness.
Valdez	2012	USA (HIC)	Pre/Post Design	School staff (teachers, counsellors, principals)	Middle, high schools	In-person group (It's Time)	Increase knowledge of depression, increase knowledge of strategies to aid students.
Viera	2014	Brazil (LMIC)	Pre/Post Design	Teachers	Middle, high schools	In-person group	Improve teachers' capability to identify and appropriately refer children with possible mental health problems.
Wei (a)	2014	Canada (HIC)	Pre/Post Design	Teachers	Secondary schools	In-person group (The Guide)	Improve teacher's general mental health knowledge.
Wei (b)	2014	Canada (HIC)	Pre/Post Design	All school staff	Secondary schools	In-person group (Go-to Educator Training)	Prepare staff for potential requests for help from students in terms of early identification and triage of those with mental health problems.

Figure 2.2.

Map of host countries for included studies.
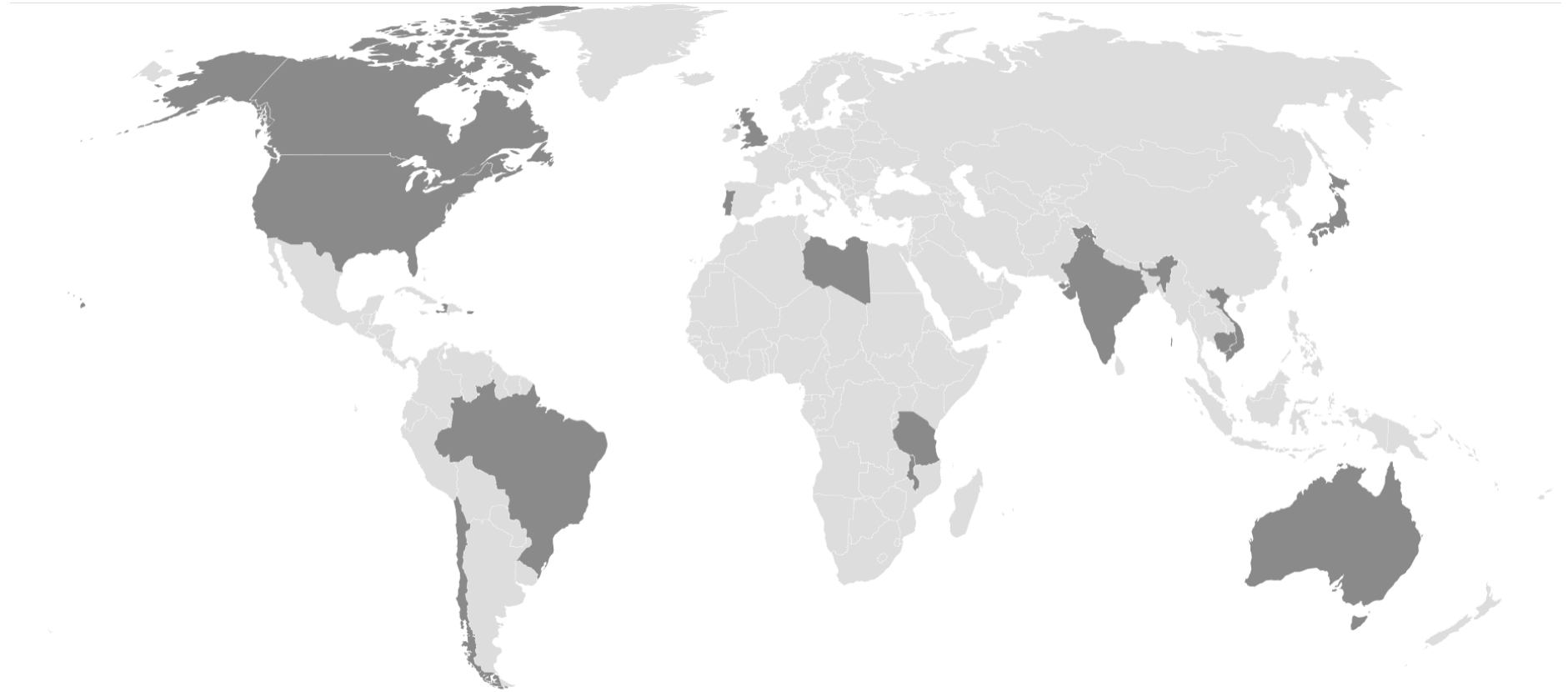
Thematic Synthesis

We developed eight analytic barrier/facilitator themes (see Figure 2.3.) clustered into three categories of themes; program characteristics, provider characteristics and community factors.

Program Characteristics

Content (19 studies)

The most common reoccurring theme across all studies was whether the content of the MHL program was acceptable to participants and program trainers. Six subthemes in total were identified: modifiable content; manualised content; practical content; theoretical understanding of mental health; focus on recognition and treatment; and use of discussion.

Modifiable content: Eleven studies spoke of how content of the MHL program was modified based on the expressed needs of education staff involved to help facilitate implementation. This included education staff being involved in the design of the MHL program, or in the case of pre-existing MHL programs, modified to meet the needs of education staff. This was explicitly mentioned in several studies conducted in LMICs, in which content of western-based MHL programs was adapted to fit the needs of the local population, considering cultural understandings of mental health. In one instance, Wei and Kutcher (2014a) stated that success of MHL programs is achieved "not by providing noncontextualised standalone MHL programs but by building on existing pedagogic approaches that teachers use to help prepare them to teach curriculum in their classrooms".

Manualised content: Eight studies reported how manualised interventions were a facilitator to implementation. One key example of this is variations of "The Guide", a MHL program designed by Kutcher and Wei, (2014) which was used in six studies in this review. Participants reported enjoying manualised content, especially information that could be taken away to best aid practice and

continued learning for the future. Similarly, program trainers in several studies that used train-the-trainer models reported manualised content being easy to deliver.

Practical content: Participants from six studies reported preferring practical content within the MHL programs. Content that was predominantly theory-based learning (e.g., aetiology of depression) was seen as a barrier for some participants. According to Valdez and Budge (2012) who looked at a MHL program to address adolescent depression, "participants stated that they would have liked more practical information about how to (a) carry out curriculum modifications, (b) engage in communication with students and parents about depression and (c) provide resources and improve access to community services for students."

Theoretical understanding of mental health: Five studies reported participants' feedback on the theoretical underpinnings behind mental health disorders they were being taught. In studies from LMICs, there was often a focus on neurobiology and biological/medical models of various mental health disorders (such as depression) which appeared to facilitate delivery. Nguyen et al (2020) stated "what is considered to fall under mental health varies across cultures.". In studies from HICs, participants reported a strong focus on the medical model within teaching, which was a barrier for some staff and facilitator for others.

Focus on recognition and treatment: Five studies spoke of participants enjoying or wanting content to be focused on recognition and treatment, as opposed to simple knowledge acquisition, which was seen as a barrier. Participants wanted information which could be directly applied to their day-to-day work in a simplified yet direct manner.

Use of discussion: Four studies spoke of discussion or reflection elements incorporated into MHL content being a facilitator. In several studies, this incorporated a question-and-answer opportunity with the program trainers where participants felt they could share and elaborate their own thoughts and receive further person-centred guidance.

Delivery (17 studies)

This theme focused on the delivery elements of the MHL program which participants and facilitators found acceptable and practical. Four subthemes included interactive delivery, train-the-trainer model, refresher and follow up sessions and length of training.

Interactive delivery: Eight studies referenced interactive delivery methods being a facilitator for participants. This included the use of multimedia methods (PowerPoint, video etc.), vignettes, exercises, group work and discussions, as well as others. Simple classroom-based learning (e.g., trainer talking while participants listen) was seen as a barrier for some.

Train-the-trainer model: The train-the-trainer model was used in eight studies and often cited as a key facilitator of uptake and knowledge acquisition in the long term (despite often not being assessed). The train-the-trainer model focused on an initial phase of delivering training to a group of education staff within schools, who themselves then deliver the training to the rest of the staff team. Wei et al (2014b) discussed the train-the-trainer model by saying "it goes beyond the concept of having educators deliver the intervention but assists educators in achieving mental health competencies needed to identify students at high risk of mental disorders and link them with appropriate school or community services." It was an expressed belief that a train-the-trainer model would aid knowledge acquisition from MHL programs be maintained over time.

Refresher and follow up sessions: In five studies, a refresher or follow up session was seen as a facilitator to implementation with the absence of such recognised as a barrier. Like the train-the-trainers model, it was felt more sessions in the future would help keep MHL at a higher level and ensure effects of the initial training are not lost over time. For example, Moor et al (2000) stated "effects of one-off staff training are eroded with staff changes and attrition of knowledge over time, so programs need to look into more ways of ensuring sustainability in training methods."

Length of training: Eight studies discussed the length of the MHL program being key to implementation. Participants across several studies said they wished that sessions were longer (either multiple full day sessions or full day sessions when only several hours) as they recognised the need and value of the training. However, longer sessions were often difficult to accommodate. For example, Jorm et al (2010) stated in their study "the duration of the training had to be abbreviated from 14 hours to 7 hours for the majority of staff to fit in with the scheduled staff training days available to schools." Similar experiences were evident in other studies, with competing initiatives and priorities a barrier to implementation. Importantly, Robinson-Link et al (2020) stated "implementation science and prior research suggests that one-time workshops may increase knowledge of trainees but are insufficient to change practices and behaviours", indicating a conflict in what is needed and what is feasible.

Provider Characteristics

Skilled trainers (20 studies)

All studies that had an in-person group design used skilled trainers who either had extensive mental health knowledge or had been trained to deliver the intervention as part of their professional role. Several studies that reported direct participant feedback expressed trainer knowledge to be a key factor in the acceptability of the intervention.

School support (eight studies)

A key delivery facilitator was for education providers, such as headteachers, to be involved in the development and delivery of the MHL program. This allowed for an increased likelihood of participant uptake and prioritisation through non-voluntary samples. For example, Townsend et al (2018) found "the whole of school approach engaged multiple levels of education staff and fostered

collaborative practice." A lack of school or admin support was a key barrier to implementation, as seen through high staff attrition, teachers needing to leave sessions due to other commitments and timetabling issues.

Pre-existing interventions (six studies)

Studies that utilised pre-existing MHL programs, such as 'The Guide' or 'Mental Health First Aid' had a structured and rigorous process already in place that appeared to support acceptability and practical delivery. Often, they reported fewer barriers than new MHL programs. Multiple research papers on these programs have been published, which has allowed them more opportunity to enhance their programs for usability. Kutcher et al (2015b) mentioned how their intervention had involvement of "educators, Ministry of Health consultants and counsellors affiliated with the Guidance (and) Counselling and Youth Development Center for Africa (GCYDCA)" which aided in the implementation of the MHL program. Mental Health First Aid training, according to Fisher et al (2020) is an "internationally recognised training course" and has received government support in the UK which would also support the implementation of the program.

Community Factors

Culturally/Locally Relevant (eight studies)

Having the MHL program be locally and/or culturally relevant was an important facilitator for implementation. This theme was present in all studies from LMICs. Studies expressed how they intended to create or modify programs to match local need and understanding. This was often specifically related to vignettes and examples used within the content. For instance, a barrier for participants from Valdez and Budge (2012) was that some of their depression vignettes were "not

sufficiently representative of racial minority students or students of different sexual orientations, academic abilities and lifestyles."

Matching government mental health priorities (14 studies)

Studies discussed the need to align their research with the latest mental health guidelines from the healthcare and education systems within the country of delivery to both benefit the current study and future implementation of the MHL program. This was evidenced in Brick et al (2021) who stated, "efforts to train more teachers may require dedicated teacher coaches, government action and administrative structure" when speaking of future implementation. Kutcher et al (2015b) stated how their intervention "was also recognised by the Ministry of Health as an important component of the reform of mental health policy and plans for Malawi" which was seen as a facilitator.

Benefitting community knowledge (six studies)

Several studies, especially those from LMICs, expressed how participants wanted their improvements in mental health knowledge to benefit the community outside of the school context. For example, Kutcher et al (2016) found "once teachers receive training in how to apply a MHL resource in their classrooms, they spontaneously use their new knowledge to reach out to and assist their students, friends, family members and peers" which was seen as a facilitator for participant engagement in the MHL program.

Figure 2.3.

Diagram of themes of barriers/facilitators to successful implementation of mental health literacy programs for education staff working with adolescents.

Program Characteristics

Content (19*)   Delivery (17)

Modifiable (11)   Interactive (8)

Manualised (8)

Practical (6)   Train-the-Trainer Model (8)

Theoretical Understanding of Mental Health (5)

Refreshers/Follow-ups (5)

How to Recognise and Treat (5)

Use of Discussion (4)

Length of Training (8)

Provider Characteristics

School backing (8)   Pre-existing interventions (8)

Skilled trainers (20)

Community Factors

Culturally/ locally relevant (8)   Benefitting community knowledge (6)

Matches government MH priorities (14)

Note. * = Number represents frequency of studies that showed evidence of each theme

Discussion

This review uncovered eight analytic themes with regards to barriers and facilitators to implementing MHL programs with education staff for adolescents. These themes were subsumed into the categories of intervention, organisation and community-level factors that are important to consider when designing these programs.

We found that delivery of MHL programs is a complex multi-level challenge, especially when considering longevity of the intervention and its benefits for education staff and adolescents for the future. Most barriers and facilitators pertained to the program content and its delivery. A common problem is the trade-off between education staff wanting longer programs to ensure comprehensive knowledge acquisition, yet time-consuming interventions suffering logistically. Longer MHL programs do not necessarily have better outcomes in constructs related to MHL, and little research has gone into studying long term effects of these interventions. Importantly, we found evidence of two implementation factors which may aid long-term acceptability of these programs: co-production of MHL programs by education providers (e.g., regional education leads) and train-the-trainer models.

Consistent with implementation science principles of innovative training programs (Proctor et al, 2009) and guidance on co-production in mental health (National Development Team for Inclusion, 2016), designing or modifying MHL programs alongside education providers appeared to ensure prioritisation and appropriate resources were made available. Several studies expressed challenges related to implementation of MHL programs in schools due to competing workloads/priorities of education staff. UK schools, for example, have faced criticism due to their prioritisation of academic achievement over mental health (Turner, 2018) yet there may be signs of change in the wake of the government green paper on transforming mental health provision for young people (Wormald, 2018). Co-production and collaborative design in MHL programs can facilitate the evolution of individual, organisational and community capacity to respond independently to mental health needs and is at the heart of developing sustainable services for the future (Osborne, Radnor & Strokosch, 2016).

The train-the-trainer model was also found to be an accepted way of implementing MHL programs (Kutcher et al, 2015a; Wei et al, 2014a). Research has shown in other areas that this form of blended learning can be more effective when compared to traditional instructor-based training (Means et al, 2013) and is based on the belief that people adopt new information better through their trusted networks (Rogers, 2010). According to studies in this review, the model is best used in HICs with appropriate networks for support and robust supervision plans. This approach was not used often in LMICs due to scarce support structures for mental health at local and government levels (Saraceno et al, 2007). If such support was in place, the train-the-trainer model appears to be a sustainable solution to the maintenance of knowledge acquisition for the future. Addressing whether co-constructed MHL programs in a train-the-trainer model is superior to manualised interventions by skilled external trainers will be important in the future of MHL research in these settings.

Although most of our findings applied to both HICs and LMICs, there were some key differences. Pedagogically, MHL programs in LMICs were often Western-based and needed to factor in elements such as mental health stigma, cultural and spiritual views of mental health and typical teaching methods in that country and area. Research on MHL has stressed that programs must be context specific, developmentally appropriate, tailored to the target population and effectively integrated into social and organisational structures (Kutcher et al, 2015b; Kutcher, Wei and Weist, 2015; McLuckie et al, 2014). This review supports the need to improve wider system level action and administrative structures in LMICs (Brick et al, 2021) to ensure any impact of MHL programs are considered sustainable.

Limitations

This is the only review to date that synthesises barriers and facilitators of implementing MHL programs with education staff across the globe and is therefore valuable in informing researchers designing interventions in this area. We included studies regardless of country, though only eight MHL

programs were found in LMICs. Comparisons within HICs were simpler due to similarities in education systems, yet there was a much greater level of variation within studies conducted in LMICs. For example, there are significant differences in culture, education and mental health between Libya and Brazil, two host countries of studies in this review. Therefore, interpretations of barriers and facilitators in LMICs must remain broad, both due to variation and the small number of studies included. It is hoped that as this is a rapidly developing area of research, future reviews will be able to include more studies from LMICs which can add greater weight to recommendations. Studies presented in a foreign language were out of the scope of this review but may also have increased the number of studies.

Importantly, many of the themes in this review were generated through researcher interpretation rather than objectively collected process data. The process data that was collected was often rich in detail but often most common in pilot or feasibility studies in which the research was much less robust, often had fewer participants and followed a simple pre/post design without a control group. Only six of the 22 included studies used a randomised controlled trial, only one of which was conducted in LMICs. Information on implementation barriers and facilitators is often neglected in favour of information on effectiveness and so richness in data is difficult to uncover. There is a significant problem in the implementation of effective interventions in routine practice (Proctor et al, 2009) and one way to change this is to give increased attention to factors impacting implementation and design studies accordingly.

The findings of this review have important implications for researchers in the area of MHL programs with education staff for adolescents. Answering logistical issues of delivery to ensure acceptability and sustainability is paramount for MHL programs moving forward. Train-the-trainer models and co-produced programs are two approaches which facilitated implementation but understanding their long-term efficacy in education settings will be important for the future. In the UK, new Mental Health Support Teams (MHSTs) based in schools and colleges offer direct support for

young people experiencing mild-to-moderate mental health difficulties and could also be skilled trainers of MHL programs. Research into the ability of Education Mental Health Practitioners within these MHSTs to provide MHL programs could potentially provide an answer to fidelity and sustainability issues raised in this review.

Conclusion

This review demonstrates key barriers and facilitators to implementing MHL programs with education staff. Common barriers related to logistical issues and competing agendas within education settings, but policy changes in the future may remedy this. Facilitators to implementing MHL programs focused on collaboration with education providers at multiple levels and use of blended learning strategies to create more sustainable benefits. Taking practical action to address the themes uncovered will aid researchers to design more robust, accepted, high-quality interventions that benefit all stakeholders in the present and future, from policy makers to the adolescents in need.

Conflicts of Interest:

The authors declare no conflicts of interest associated with this review.

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Appendix A**:** *Search Strategy*

Relevant studies were identified by searching 5 electronic databases (MEDLINE, PsycINFO, CINAHL, ERIC & British Education Index) from inception to July 2021. The search string is as follows:

(Teacher* OR "School staff*" OR "Education staff*" OR "School Nurse*" OR "School Practitioner*") AND ("mental health" OR "mental disorder*" OR "mental illness" OR depression OR "mood disorder" OR "affective disorder" OR "anxiety disorder" OR psychosis) AND (literacy OR belief* OR attitude* OR perception* OR stigma OR competen* OR abilit* OR capabilit* OR confiden* OR knowledge OR identif* OR aware* OR recogni*)

47

CHAPTER THREE

Bridging Chapter

Bridging Chapter

The systematic review presented in Chapter Two investigated the barriers and facilitators of mental health literacy programs for education staff working with adolescents. Given the number of relevant studies conducted this decade alone (7 out of 22), this review is useful to help guide future studies in this rapidly developing area and complement other reviews on mental health literacy interventions with this population in recent years (Anderson et al, 2019; Yamaguchi et al, 2020). Overall, results demonstrated the need to balance logistical issues with sustainability factors to design more robust, accepted, high-quality mental health literacy programs.

This systematic review highlighted possible ways to achieve sustainable outcomes for these programs, such as blended learning models and co-production methods. This stems from the evidence suggesting that the majority of mental health literacy programs are already demonstrating improvements in outcomes such as knowledge acquisition, stigma reduction, and intention to treat/refer (Yamaguchi et al, 2020) in their current designs. If most mental health literacy programs can show positive outcomes, focus should turn towards sustainability factors and cost-effective methods to optimise design and delivery.

Designing cost-effective mental health literacy programs for education staff has become incredibly relevant in the wake of the recent Covid-19 pandemic. Mental health and wellbeing of employees is known to be affected by job demands (e.g., workload, role conflict) and job resources (e.g., social support and autonomy; Demerouti, Bakker, Nachreiner & Schaufeli, 2001), both of which were severely impacted for education staff during the Covid-19 pandemic. Workload of staff in schools has been a key job stressor for teachers for some time (Catalán, Sevil, Kim, Klassen & Gonzalez , 2019) and this was made worse by the confusion and stress of abrupt school closures, lockdowns and uncertainty for the future caused by the pandemic (UNESCO, 2020). In the UK, the Department for Education (DfE) has supported initiatives to address the challenge of teacher workload (Churches, 2020) as many localities cannot afford further consequences of work stress given global teacher

shortages and high attrition rates (Schleicher, 2018). Popular mental health literacy programs such as Mental Health First Aid training course (Kitchener & Jorm, 2002) or The Guide (Kutcher, Wei, McLuckie & Bullock, 2013) were mostly delivered in-person and over multiple days, not only impossible to do during lockdowns, but also time consuming and resource intensive which could further stretch an already struggling workforce.

Remote teaching was one of the most prominent changes required of education staff in the UK during the pandemic (Department for Education, 2020) as many industries looked to online methods of education and training. One of these methods of remote teaching is e-learning. E-learning can be defined as a learning process created by interaction with digitally delivered content, network-based services and tutoring support (Jethro, Grace & Thomas, 2012). They can offer the learner control over learning sequences, pace of learning and time, allowing them to tailor their experiences to meet personal learning objectives.

Research on e-learning mental health literacy programs for education staff is scarce. Ueda et al (2021) created a video-based mental health literacy program for teachers which demonstrated improved knowledge and intent to help but was conducted in a classroom rather than online. Robinson-Link et al (2020) created an online gatekeeper training program to aid with suicide prevention in adolescents which positively impacted on teacher beliefs and likelihood to intervene with at-risk students, though it did not change actual behaviour. Finally, Jorm, Kitchener, Fischer & Cvetkovski (2010) compared the printed manualised version of the Mental Health First Aid training course with an e-learning CD version, as well as waitlist control. They found both the e-learning and printed manual increased aspects of knowledge, reduced stigma and increased confidence compared to wait-list control. Though research is limited, there are promising results in these studies which point towards e-learning having similar outcomes as traditional classroom-based learning, yet with the added benefits mentioned of cost-effective delivery.

Another important element of consideration with focus on sustainability and cost-effectiveness is length of the training program. Staff from studies presented in the systematic review from Chapter Two expressed a bias towards longer mental health training, though the longer the training the more likely it was to experience logistical issues such as drop out, competing workloads and difficulties working around a busy school schedule. The longest training program identified in this systematic review was ten days over a two-week period, with the shortest being 50 minutes in one sitting. Neither of these studies looked at long term outcomes on mental health literacy, but comparing pre/post outcomes, both were considered successful in improving outcomes associated with knowledge acquisition (Brick et al, 2021; Ueda et al, 2021). It has been documented that more research is needed on long term outcomes (Yamaguchi et al, 2020) but it also important to consider whether brief training that is low-cost, easy to deliver and avoids logistical issues can produce similar positive results on knowledge acquisition.

The empirical study presented in the next chapter aimed to assess the feasibility of an online mental health literacy program for education staff to aid in identification and referral accuracy of adolescents with depression symptoms. Given the factors outlined above, the program involved a brief e-learning training video which allowed participants to take part in their own time, with the entire research process expecting to take no more than 30-40 minutes to with staff workload in mind. Novel features of the program are explained and its utility within the mental health literacy field is described in the context of the Covid-19 pandemic.

CHAPTER FOUR

Empirical Study

Prepared for submission to British Journal of Educational Psychology

(For author guidelines see Appendix B)

Word Count: 4992 (not including abstract, figures, tables or references)

The impact of an online mental health literacy program for education staff on identification and referral accuracy of adolescents with depression symptoms: A feasibility study

Running Title:

Online school mental health intervention

Authors:

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Keywords:

Mental Health Literacy, Online, Schools, Adolescents

Word Count: 4992

(not including abstract, acknowledgements, tables, figures or references)

Abstract

Aim: Mental health literacy programs are interventions that have shown to increase education staff's knowledge on adolescent mental health, though this has not always demonstrated an impact on help-seeking behaviour. Utilising the Gateway Provider Model of factors which influence adolescent access to treatment, this study created and piloted a brief, online mental health literacy program for education staff to improve identification and referral accuracy of adolescents with depression.

Methods: A mixed-methods feasibility and acceptability study was conducted using a single arm pre/post design. An online training video about identifying and referring students with depression was created and shown to volunteering education staff in the UK. Participants were asked to read six vignettes (three pre, three post) of students with possible depression, and answer questions around how they would respond. Feedback on the video and research process was collected.

Results: 29 participants were recruited. Overall, participants enjoyed the research process and found the video engaging and helpful. Preliminary efficacy demonstrated increased accuracy of identifying students not experiencing signs of depression, but there were minimal changes across 'mild/moderate' and 'severe' depression vignettes on intention to refer. Participants' self-reported knowledge and confidence to identify and refer students with depression increased overall.

Conclusions: The intervention and research process appear feasible and acceptable to participants, and limited efficacy outcomes were positive, though require further evaluation. Given the intervention's online modality, brief nature and need for limited oversight, there is promise in this intervention to enhance mental health literacy training further.

Acknowledgements

Introduction

Around 50% of mental health difficulties have their first onset by age 15 (Mansfield, Patalay &Humphrey, 2020). In the UK, one in six 6–19-year-olds (17.4%) are diagnosed with a mental health disorder (NHS Digital, 2021), with depression one of the leading causes of illness and disability among adolescents worldwide (WHO, 2021). Symptoms of depression significantly impact a child's ability to function within school settings (Finning et al, 2018) and can run a chronic and recurring course, with a 64-78% comorbidity with other mental disorders (Steffen, Nubel, Jacobi, Bätzing & Holstiege, 2020). This poses a significant public health burden, with early onset depression associated with increased risk of drug and alcohol abuse, risky sexual behaviour, suicide, poor academic outcomes, and physical health problems over the lifespan (Johnson, Dupuis, Piche, Clayborne & Colman, 2018; Naicker, Galambos, Zeng, Senthilselvan & Colman, 2013; Wickersham et al, 2021).

Despite research showing the link between depressive episodes and school related performance (Elliott & Place, 2019), depression is poorly recognised in adolescents and less than 20% receive treatment (Kieling et al, 2011). A contributing factor is that adolescents rarely self-refer or speak to mental health professionals about their concerns (O'Connell & Shafran, 2021; Radez, Reardon, Cresswell, Lawrence, Evdoka-Burton…& Waite, 2020) and are reliant on others supporting them to seek help. With the large amount of time they spend in schools, there is increased expectation on education staff to have a greater role in recognising and supporting adolescents with mental health difficulties (Department of Health, 2015; Department of Health and Education, 2017), with various government campaigns in the UK stressing the need for schools to increase their mental health literacy training (DoH, 2015; DoH&E 2017).

Unfortunately, research has shown that education staff have poor confidence and ability to recognise mental health difficulties such as depression in adolescent populations (Cunningham &

Suldo, 2014; Gelley, 2014; Shelemy, Harvey & Waite, 2020). These problems limit the extent to which staff can support adolescent help-seeking for depressive symptoms, contributing to the gap between need for treatment and access to it in this vulnerable population. Education staff have recognised the need for more mental health training to focus on recognition of mental health difficulties (Shelemy et al, 2019). One way to achieve this is through mental health literacy programs. Mental health literacy (MHL) is defined as "knowledge and beliefs about mental health problems which aid their recognition, management and prevention (Jorm et al, 1997; Jorm, 2012). MHL programs are interventions which teach individuals how to maintain positive mental health; understand mental disorders and their treatments; decrease stigma related to mental health disorders; and enhance help-seeking efficacy, both for themselves and others (Jorm, 2012; Kutcher, Bagnell & Wei, 2015; Wei & Kutcher, 2014).

Existing MHL training for education staff has shown an increase in knowledge and attitudes towards adolescent mental health in line with the theory of planned behaviour (Jorm, Kitchener, Sawyer, Scales & Cvetkovski, 2010; Yamaguchi et al, 2020; O'Connell, Shafran, Camic, Bryon & Christie, 2019). Unfortunately, this has not always led to improvements in help-seeking behaviour (Yamaguchi et al, 2020). While intention, beliefs, and attitudes towards mental health play an important role in changing behaviour, a broader theoretical approach is also needed to better understand reasoned action (Sniehotta, Presseau & Araújo-Soares, 2014). One way of achieving this is by applying models of knowledge acquisition. Interventions that aim to improve education staff's knowledge of mental health rarely use actual models of referrer knowledge in their design. The Gateway Provider Model (Stiffman, Pescosolido & Cabassa, 2004, Figure 1.) looks at the central influences that affect adolescent access to treatment. According to the Gateway Provider Model, adolescents' self-reported need for services only explains 20% of the variance in receiving service support (Stiffman et al, 2000). The rest is accounted for by 'gateway providers' such as parents, teachers and school staff who can support a referral to services. An important aspect of the model is that it states training of gateway providers should consider how to influence factors beyond simply recognising and identifying mental health

concerns and should include understanding organisational support systems and referral pathways to help gateway providers make more informed decisions on referrals. This is pertinent following the green paper for 'Transforming Children & Young People's Mental Health Provision' (DoH, DfE, 2017) and the introduction of new Mental Health Support Teams (MHSTs) within schools to help adolescents with mild to moderate mental health difficulties in England. According to the Gateway Provider Model, understanding systems and structures around gatekeepers alongside other important areas of knowledge allows a gateway provider to make an informed decision on whether to refer or not.

Figure 4.1.

The Gateway Provider Model (Stiffman et al, 2004)
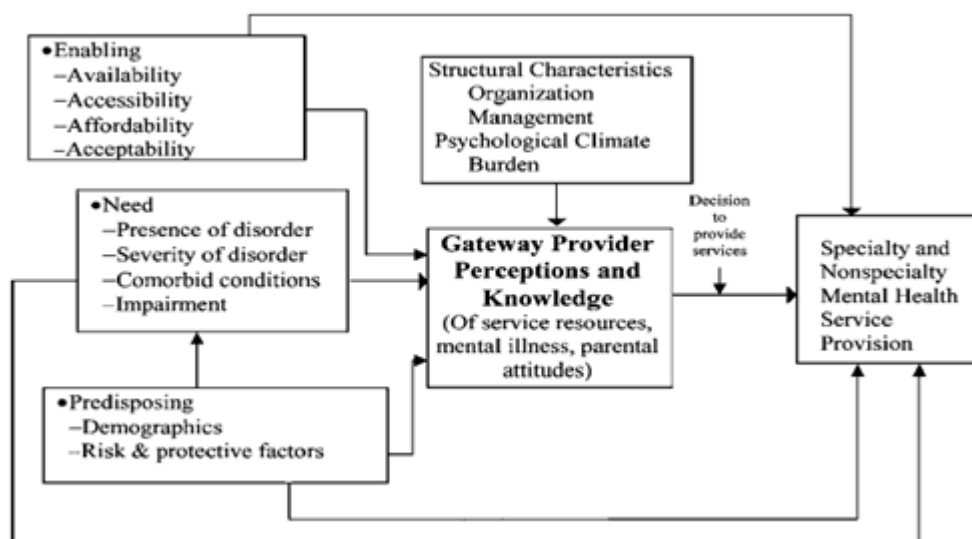
Previous work on what education staff want from training packages has found that these need to be engaging and focus more on recognising mental health difficulties as opposed to intervening, which many teachers still consider not to be their primary role (Shelemy et al, 2019). E-learning programs are an engaging modality of training delivery that may overcome some of these limitations (Graeff-Martins et al, 2006) and be a more time efficient way to target a larger population of professionals in contact with children (O'Connell et al, 2021). E-learning has been shown to be a cost-

effective and scalable means of transmitting mental health knowledge (Sinclair, Kable, Levett-Jones & Booth, 2016). However, there have been very few examples of online mental health literacy programs for education staff that have been evaluated (Yamaguchi et al, 2020), despite potential benefits of improved scalability, reduction in costs and increased flexibility which has become paramount given the recent Covid-19 pandemic. This design may be a feasible and effective way of delivery mental health training to education staff to help them to support problem recognition and help-seeking for adolescent depression, thus contributing to bridging the referral gap.

The aim of the current study was to evaluate the feasibility, acceptability, and preliminary efficacy of delivering an online mental health literacy program for education staff to identify and refer adolescents with possible depression. The research questions were:

Is an online training package aimed at improving identification and referrals of depression in students aged 11-19…

1. A feasible method of delivering training to education staff?

2. An acceptable method of delivering training to education staff?

3. Effective (within limits) at improving knowledge, confidence, and intention to act?

Method

Design

This study was a mixed methods feasibility and acceptability study using a single arm pre/post design. Eldridge et al (2016) guidance on defining feasibility studies was followed and evaluated as part of the study, including assessment of implementation, and limited efficacy.

Participants

Education staff who worked directly with adolescents aged between 11-19 were recruited. This included staff from schools, sixth forms and colleges. Only settings in England were included due to differences in educational and mental health structures in other countries not covered by the training package. Teaching and non-teaching staff were included, so long as their primary role was working with students (e.g., learning support assistants, pastoral teams etc.). This staff group was chosen due to the age of students where rates of diagnosis of depression is highest among adolescents (WHO, 2021).

Participation was voluntary and staff received no renumeration for their involvement. Education staff from non-mainstream settings (such as pupil referral units or special education needs schools) were excluded from participation due to expected variations in staff role not covered by the training. Teachers had to be actively working to participate.

In accordance with sample size recommendations for feasibility and pilot studies, this study aimed to recruit between 24 and 50 participants (Lancaster, Dodd & Williamson, 2004; Sim & Lewis, 2015).

Intervention

An online training package was created consisting of a modular mental health literacy program based on the principles outlined by the Gateway Provider Model, alongside research by Shelemy et al (2019) regarding teacher preferences for how training is delivered. Consultation on design was supported by multiple professionals with mental health expertise including clinical psychologists, researchers in adolescent mental health, Education Mental Health Practitioners (EMHPs) and teachers which made up a project refinement team.

The training itself consisted of a three-part online 15-minute video created using Videoscribe software. Participants could access this video in their own time but were encouraged to complete the video in one sitting. The first part of the training focused on an overarching view of the mental health of adolescents today. The second part focused on the identifying signs and symptoms of depression in schools and colleges and the final part focused on how to support and refer those adolescents to appropriate services. A downloadable resource that included some of the key points from the training and its sister training (on anxiety) was disseminated to participants at the end of the study.

Procedure

Initial contact was made to staff within schools and local MHSTs, as well as Chief Executive Officers of multi-academy trusts and regional Department for Education leads. These contacts acted as gatekeepers and disseminated the study advert to education staff who could opt into the study via email. Those that opted in were randomly assigned to either this study or a sister study looking at recognition and referrals of adolescents with anxiety. Ethics approval for both studies was conducted jointly. Randomisation was completed via an auto generated allocation sequence list from 1-128 using an online randomising program (www.sealedenvelope.com).

Following acknowledgement of interest via email and assignment to either the depression or anxiety study, participants were given a unique ID number and an online link to access the training materials. Here they were given participant information sheets and consent forms to be signed. Once agreed, they were then asked to complete demographic questions and pre-training measures. They then watched the training video followed by post training measures.

Completion of all materials, including watching the video was estimated to take between 30-40 minutes. A feedback questionnaire was included following completion. At the bottom of each page of the online survey, contact numbers (e.g. Samaritans) were shared alongside prompts to call their GP if participants had any difficulties regarding their own mental health during the training.

Participants were given the option of withdrawing from the study at any time simply by closing the webpage before completion and their information would not be stored.

A phenomenological approach (Mortari, 2015) was undertaken throughout this research to guide reflections on the feasibility issues within the study and make changes accordingly. Reflections were structured using Greenaway's (2015) model of Active Reviewing, which incorporates four stages (Facts, Feelings, Findings and Future). Several of these reflections are present in the discussion.

Materials

Intervention

Vignettes

Vignettes were based on previous vignette studies of teachers' ability to recognise mental health difficulties in students (Loades & Mastroyannopolou, 2010; Missenden & Campbell, 2019). Six vignettes were used. Three were shown to participants before the training video and three immediately afterwards in the same order. Each vignette detailed a student who was potentially experiencing depression symptoms at three levels of severity: 'non-depressed' (non-clinical), 'mild/moderate' and 'severe'. 'Non-depressed' vignettes involved day-to-day low mood often caused by an overt trigger which appeared situational, temporary, and brief. 'Mild/moderate' vignettes involved sub-threshold depression symptoms that appeared prolonged and generalised. 'Severe' vignettes demonstrated evidence of clinical depression. Construct validity was assessed prior to the study by disseminating the vignettes to Clinical Psychology trainees and asking them to categorise the vignettes. All were able to accurately identify which vignettes belonged in each category. These vignettes were written to be gender neutral, referring to each person by a single letter as previous studies have shown gender to impact teacher's likelihood of recognising internalising disorders (Loades & Mastroyannopolou, 2010).

Measures

Demographic Information

Information on gender, job role, school type (academy, secondary school, sixth form etc), Ofsted Rating of setting and year groups they predominantly work with (e.g., 16–19-year-olds) were collected from all participants.

Confidence ratings

Three questions assessed participant confidence before and after training. Questions were (1) 'how confident are you that you could recognise signs of mild/moderate depression symptoms?' (2) 'If you spotted these signs, would you be confident in knowing what to do?' and (3) 'how confident are you in spotting the differences between "typical" (non-clinical) low mood and when it has become a problem?' Responses were on a seven-point likert scale. As sub-clinical low mood is more likely to be missed by education staff (as opposed to clinical depression), questions focused on participants' confidence in recognising this.

Vignette Questionnaires

After each vignette, participants were asked six questions based on questions outlined by Splett et al (2019) in accordance with the Gateway Provider Model. Construct validity of the questions was assessed by the project refinement team. Responses were on a likert scale between 0-10 unless open ended. These questions were: (1) How confident were you that 'X' was presenting with a mental health disorder? (0 = not at all, 10 = definitely confident), (2) If you did think 'X' was presenting with a mental health difficulty, how would you describe it? (Open ended), (3) Using the scale below, rate how serious you think 'X's' difficulties are: (0 = No problem, 10 = severe difficulties), (4) Using the scale below, how concerned would you be if 'X' was one of your students? (0 = not concerned, 10 = Extremely concerned), (5) How likely are you to refer this student for mental health support? (0 =

Extremely Unlikely, 10 = Extremely Likely) and (5b) who would best support 'X' at this point (multiple choice)? (5c) Please explain your answer (open ended).

Feedback Questionnaire

The feedback questionnaire focused on eleven statements around feasibility and acceptability (e.g., 'the video made sense to me', 'it took too long to complete the questionnaires' etc.) around the training video and the research process. All questions were provided with a likert scale (0-7, 0 = definitely do not agree, 7 = definitely agree) with opportunity for further comments in an open-ended response box.

Data Analysis plan

Feasibility and Acceptability

Descriptive statistics of recruitment, retention rates and drop-out were reported alongside demographic data. Quantitative data regarding the acceptability and feasibility of the training video and data collection process was also analysed using descriptive statistics.

Qualitative data from open response questions were analysed using content analysis (Morgan, 1993). This was conducted to understand accuracy of interpretation of the vignettes based on whether they were highlighting 'non-depressed', 'mild/moderate' or 'severe' depression. Guidance for this process came from Rose, Spinks & Canhoto (2015), in which a coding scheme is devised using classification rules to assign coding units to categories or concepts. For example, assigning the numerical code '0' to a response which incorrectly indicates anxiety as the primary mental health difficulty. These rules were developed and documented for reference, to ensure systematic and replicable coding of the data. Attempts were made to ensure each code was mutually exclusive and exhaustive so instructions for coding were clear.

With regards to data of the acceptability of the training video, this was often brief and widely varied, therefore inductive reasoning was needed to apply meaning to responses. Reflections of the research team are also included to inform future research.

Outcome Data

Feasibility studies play an important role in determining whether complex community-based interventions are appropriate for efficacy testing (Bowen et al, 2009; Wuest et al, 2015). However, undue emphasis is commonly placed on efficacy potential in feasibility reports (Becker, 2008) though preliminary evaluation of participants' responses can be carried out to assess whether an intervention demonstrates potential for standardised testing (Bowen et al, 2009; Orsmond & Cohn, 2015). Means and standard deviations pre and post training were reported. Estimated effect sizes with confidence intervals for within group differences were also reported alongside direction of change.

Results

Sample Characteristics

Participant demographic characteristics can be seen in Table 1. A total of 118 education staff emailed the researchers to express interest in participating in either the depression or anxiety (sister-study) training. Following randomisation, 56 participants were allocated to this study, of which 30 completed the online survey and training. However, one participant did not work with students in the age range of 11-19 so was excluded (participant stated they misread the research advert). Most participants were female from secondary schools. Over half were teachers and from schools with 'good' OFSTED ratings. Eight participants stated that they had no pastoral responsibility. However, participants with job titles such as 'Welfare Officer' and 'Personal Support Tutor' stated that they had no pastoral responsibility, which did not fit with the expectations of the job role and may have

represented some confusion over the question. See Figure 2. for information on participant recruitment through the study.

Table 4.1.

Participant Characteristics

Variable	Total (n)	Percentage (%)
Age Range		
20-29	3	10.3%
30-39	10	34.5%
40-49	9	31.0%
50-59	6	20.7%
60+	1	3.4%
Gender		
Female	21	72.5%
Male	7	24.1%
Other	1	3.4%
Role in School		
Teacher	16	55.2%
Non-Teacher Role	13	44.8%
Pastoral Responsibility		
Yes	21	72.4%
No	8	27.6%
Education Setting		
Secondary School	22	75.9%
College	7	24.1%
Time working with age group?		
>2 years	3	10.3%
2-3 years	6	20.7%
4-5 years	3	10.3%
6-7 years	5	17.2%
8-9 years	2	6.9%
10 years +	9	33.3%
OFSTED* Rating		

Outstanding	6	20.7%
Good	18	62.1%
Requires Improvement	4	13.8%
Inadequate	1	3.4%

Note. OFSTED* - Office for Standards in Education. OFSTED is responsible for inspecting a range of educational institutions in England. The one participant chose 'other' for the question on gender identified as non-binary.

Reasons for non-completion were not collected directly from participants. Survey analytics showed that 14 participants who did not complete started the process (completed consent procedures) but stopped at either the demographic information page (3 participants), the start of the vignettes (2 participants), the training video (7 participants) or did not click 'finished' on the final page (2 participants) despite prompts to do so. Information which was partially completed was not collected.

Figure 4.2.

CO*NSORT flowchart*
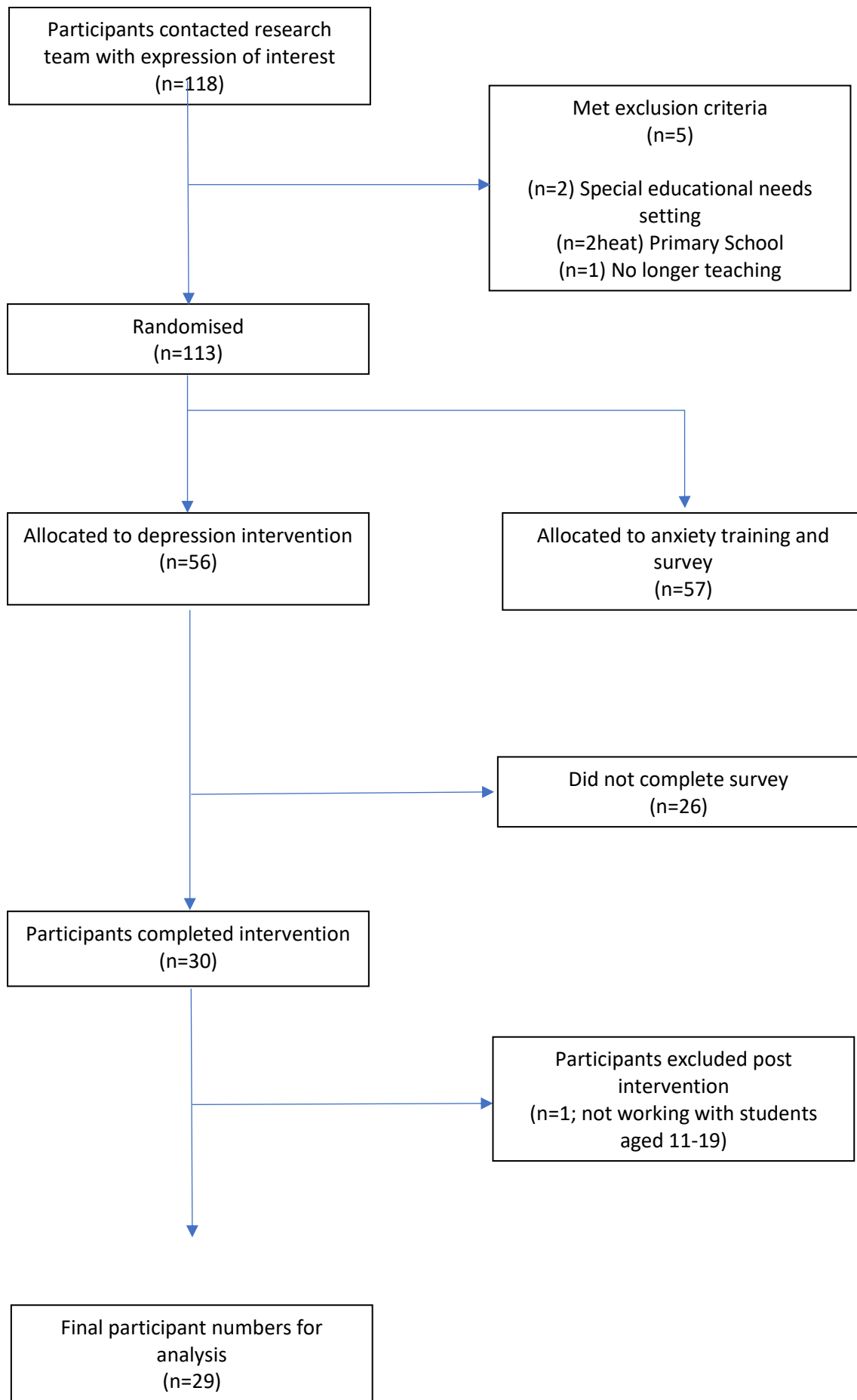
Quantitative results from feedback questionnaire

Participants recorded responses on a likert scale between 1 (definitely do not agree) and 7 (definitely agree) on questions regarding the acceptability of the research process and training video. Summary of means and standard deviations can be seen in Table 2. Inspection of box plots demonstrated only one major outlier which was a score of 1 on the question 'the video content was applicable to an education setting'. General views of the research process and training video appeared to be positive overall.

Table 4.2.

Means and standard deviation of feedback questions.

Variable		Mean (M)	Standard deviation (SD)
Statements relating to the research process	I understood what the questions were asking me	6.41	0.78
	It took too long to complete the questionnaires	2.55	1.74
	I would have preferred to have been able to choose whether I watched the anxiety or depression video	2.72	2.19
	I enjoyed taking part in the research study	6.03	1.05
Statements relating to the training video	I feel more confused about identifying depression than I did before participating in the research study	1.89	1.69
	The video made sense to me	6.86	0.35
	The video has been/will be helpful to me	6.28	1.03
	I would recommend the video to a colleague or other education staff	6.31	0.85
	I found the video boring	1.86	1.06
	The video content was applicable to an education setting	6.45	1.21
	It was too hard to access the video	1.23	1.12

Qualitative results from feedback questionnaire

There was limited qualitative data on feedback provided by participants. Thirteen comments related to acceptability of the video and six related to acceptability of the research process. There were three additional general comments.

Participants who provided qualitative feedback commented positively regarding the video. One comment stated that the language used was more related to secondary schools rather than

college-age pupils. There were repeated positive comments, including "succinct", "impactful", "easy to understand" and "helpful". Participants also stated that they enjoyed the animations and music in the video and it was of an appropriate length ("gave just enough information, without overloading with all the in-depth wordology and diagnoses"). Several participants stated they found the video beneficial ("the video transferred information in a succinct manner and has had a meaningful impact on my knowledge in this area.")

Several participants commented with suggestions for improvements. The only reoccurring theme was that three participants who were pastoral staff primarily found the information to be things they already knew ("I was accessing this training from the perspective as a mental health lead in school and hence the video wasn't that useful") but two recognised that it would be beneficial to new staff and those less experienced with pastoral responsibility ("it wasn't a lot of new information for me, but it would be very beneficial to staff that are new to recognising mental health concerns and the referral process."). Other suggestions for adaptations included more information on referral procedures and potential waiting times of services to pass on to students, as well as awareness of less prevalent signs of depression (alongside those already included).

Acceptability of the Research Process

Of the six comments that provided qualitative feedback on the research process, three commented on positive experiences, expressing that they found the research enjoyable and liked being involved. One participant expressed that they liked being challenged by the vignettes. One participant (a pastoral worker) expressed how they saw the benefit in this research, especially for new education staff ("more training about referral is also necessary as many people are not sure where to turn").

One participant expressed how they thought the research was beneficial but did take a long time to complete. One participant did not know they could tick more than one option on some questions and felt this could have been clearer. One participant felt that the scaling for the vignettes

was too subjective ("It is very difficult to quantify how serious / worrying a case is or how likely I'm to refer to support when every pupil needs to be supported").

Limited efficacy testing

Table 3. details the means, standard deviation, and estimated effect size of pre-post differences (95% confidence interval) of the vignette questions. Largest changes were seen when comparing pre and post scores on the 'non-depressed' vignettes. Scores decreased on ratings of whether the student had a mental health difficulty, ratings of seriousness of that mental health difficulty and likelihood for referral (large effect size), as well as a decreased level of concern for the student (moderate effect size). Ratings on 'mild/moderate' and 'severe' vignettes were less consistent. There was an increase in ratings of seriousness, level of concern and likelihood of referral for support in the 'mild/moderate' vignette (moderate effect size). Change on the 'severe' vignettes were limited as scores were already high, thus effect sizes were small. Participant ratings increased pre to post on statements related to overall confidence in recognising mild/moderate depression, and knowing what to do and being able to spot the difference between clinical depression symptoms and 'non-depressed' students (large effect size).

Table 4.3.

Means, standard deviations and effect sizes of vignettes and confidence ratings

Question	Severity of vignette	Mean (SD)		Effect size (95% CI)
		Pre training	Post training	
How confident are you that X is presenting with a mental health difficulty?	Typical	4.44 (1.86)	2.62 (1.95)	0.95 (0.41 - 1.50)
	Mild/Moderate	7.62 (1.81)	8.00 (1.34)	-0.24 (-0.76 – 0.21)
(0 = not at all, 10 = definitely confident)	Severe	8.97 (1.15)	9.10 (1.18)	-0.11 (-0.63 – 0.40)
How serious are X's difficulties?	Typical	4.31 (1.51)	2.66 (1.20)	1.21 (0.65 – 1.77)
	Mild/Moderate	6.72 (1.81)	7.12 (0.97)	-0.31 (-0.83 – 0.21)
(0 = no problem, 10 = severe difficulties)	Severe	8.52 (1.27)	8.62 (1.15)	-0.09 (-0.63 – 0.43)
How concerned would you be if X was one of your students?	Typical	4.75 (1.75)	3.00 (1.44)	0.44 (-0.08 – 0.96)
	Mild/Moderate	7.17 (1.69)	7.66 (1.26)	-0.32 (-0.84 – 0.19)
(0 = not concerned, 10 = extremely concerned)	Severe	8.90 (1.14)	8.86 (1.13)	0.03 (-0.48 – 0.55)
How likely are you to refer X for mental health support?	Typical	4.90 (2.14)	2.90 (2.46)	0.86 (0.33 – 1.40)
	Mild/Moderate	7.86 (1.92)	8.66 (1.42)	-0.47 (-0.99 – 0.05)
(0 = extremely unlikely, 10 = extremely likely)	Severe	9.34 (1.01)	9.21 (1.18)	0.13 (-0.39 – 0.64)

How confident are you that you could recognise signs of mild/moderate depression symptoms? (0 = not at all confident, 10 = definitely confident)	5 (1.16)	6 (0.71)	-1.04 (-1.59 - -0.49)
If you spotted these signs, would you be confident in knowing what to do? (0 = not at all confident, 10 = definitely confident)	4.93 (1.13)	6.24 (0.70)	-1.39 (-1.96 - -0.82)
How confident are you in spotting the difference between "typical" low mood and when it has become a problem? (0 = not at all confident, 10 = Definitely confident)	4.72 (1.03)	5.66 (0.97)	-0.93 (-1.47 - -0.39)

Content analysis of open-ended vignette questions

Content analysis was conducted around frequency of codes that represented participant responses to the question "if you did think X was presenting with a mental health difficulty, how would you describe it?". This question appeared after each of the six vignettes.

In the first round of vignettes (pre training video) 10% of entries were left blank. In the second round of vignettes (post training video), this increased to 26%. The number of blank entries for this question increased after each vignette

For the pre-training 'non depressed' vignette, the majority of participants (n=7) identified the primary difficulty of the student as anxiety over low mood (n=4) or depression (n=6). This number was also high in the 'mild/moderate' vignette (n=8). Post-training, participants who responded accurately identified the student to have no mental health difficulty in the 'non-depressed' vignette and likely to have depression in the 'mild/moderate' depression vignette. There were no key changes on the 'severe' vignettes.

Discussion

This review demonstrated that an online training package aimed at improving identification and referrals of depression symptoms in students aged 11-19 was an acceptable and somewhat feasible method of delivering training to education staff and worthy of further testing within a randomised control trial.

With regards to acceptability, participants reacted well to the research process. They appeared to understand what was asked of them and enjoyed taking part. With regards to the training video, consensus was positive overall. Most participants found that the video made sense, was helpful, applicable and would recommend it to a colleague. Qualitative feedback suggested some areas for change, such as targeting the training at those less familiar with signs of depression, as several

education staff with pastoral responsibilities referenced that little of the information was new to them.

The research process was feasible in the context of the Covid-19 pandemic, however there were some issues. Recruitment reached figures expected of feasibility studies at a time when education staff were experiencing unique challenges due to the pandemic impacting on work pressures (Walker, Sharp & Sims, 2020), however the time required to recruit to target was also extended and hampered due to school holidays and reliance on gatekeeper dissemination. Further, large numbers of participants who showed interest in the study did not engage, potentially due to delays between expressions of interest and being able to take part. Almost a third of participants started the research process (accessed online consent and ethics forms) but did not complete it and data was not collected as to why. Positively, online delivery and recruitment meant researcher input for data collection was minimal and easily managed.

With regards to preliminary efficacy testing, results were promising but interpreted with caution. Participants' confidence in recognising mild/moderate depression, knowing what to do with regards to referrals and being able to spot differences between non-clinical symptoms of low mood and clinical depression all increased after training with a large effect size. Given the simplicity of delivery and brief time of the intervention, this was a positive finding. Participants also appeared to be able to identify level of concern and seriousness more accurately for the non-depressed and mild/moderate vignettes after training. Importantly, participants decreased their likelihood of referring the non-depressed pupil and increased their likelihood of referring the mild/moderate pupil, which is also positive and represents hopefully a greater applied accuracy in recognising depression in their student population.

Online as opposed to in-person delivery methods for mental health literacy programs with education staff are rarely used (Yamaguchi et al, 2020). In a recent review (Carroll et al, unpublished manuscript) only one online mental health literacy intervention within secondary schools and colleges

had been published (Robinson-Link et al, 2020) and one other using video-based teaching (Ueda et al, 2021). However, given online training's cost-effectiveness, ease of access and reduced requirement of research oversight as demonstrated in this study, more research needs to investigate comparisons between online and in-person training to see if efficacy of mental health literacy outcomes are comparable. If so, those designing similar interventions should consider the unique benefits of remote online modalities.

Though only preliminary efficacy testing was conducted, the results of this study match research on mental health literacy interventions with education staff which demonstrates improvements in knowledge, confidence, and attitudes towards identifying mental health disorders (Anderson et al, 2019; Yamaguchi et al, 2020). Importantly, where this study differs to most is its use of the Gateway Provider Model in understanding what impacts youth access to treatment. Though the model has been used in other studies to guide data collection around mental health literacy (Splett et al, 2019) which was partly replicated here, this is the first study that we know of that has designed a mental health literacy intervention using aspects of the model. The Gateway Provider Model extends beyond the Theory of Planned Behaviour to incorporate an understanding of other factors which influence intention to refer. Though this training could not directly influence some of the key areas of the model such as gatekeeper burden, school organisation or availability of services, it was developed with them in mind. For example, ensuring the video focuses on education staff referring, rather than treating or intervening (with gatekeeper burnout in mind). By focusing on building knowledge of predisposing factors, structural characteristics of services, a students' need for referral and how to enable staff to act allows this intervention to have a multi-dimensional element that other interventions may not have.

Limitations

A criticism in the literature of mental health literacy is the lack of long-term outcomes to measure knowledge attrition and prolonged effects of training (Yamaguchi et al, 2020). Data collection for this intervention took place immediately after the training video when knowledge was fresh and likely easiest to apply and recall. Testing within a randomised control trial would need to evaluate whether the brief nature of the intervention impacts on knowledge and referrer behaviour days, weeks or months after training to understand its true benefits.

This study used vignettes to test referrer confidence and knowledge given the complexities and time-consuming nature of recruiting students, but it comes with limitations. Vignettes do not match real life student presentation, especially the relationship between staff and student and its impact on referrals. Further to this, only six vignettes were used and cannot accurately cover all symptoms likely to present in a student with depression given heterogeneity in the population (Chahal, Gotlib & Guyer, 2020; Chen, Yu, Zhang, Li & Zhang, 2014).

Interpretation of feasibility and acceptability of this intervention comes from those who completed it, as data from those who did not follow up after showing interest or those that did not complete was not collected. Data analytics showed that several participants who started the research stopped before or during the video. Similarly, completion of open-ended questions reduced as data collection progressed. This may show issues with time burden (from length of the video and/or the research process), or availability of education staff without allocated time within their work schedule. Further to this, teachers self-referred to the study, demonstrating a personal interest in enhancing their own mental health knowledge, and therefore displaying an existing bias to the value they place on recognising and referring adolescents with mental health difficulties. Education staff such as teachers are known to view their role as peripheral in managing student mental health despite being heavily involved in referrals (Reinke, Stormont, Herman, Puri & Goel, 2011). Despite the green paper on transforming children & young people's mental health provision (DoE, DfE, 2018), it is likely that

competing priorities and workload management (Turner, 2018) made even worse by the Covid-19 pandemic may impact on education staff's availability to seek further additional mental health training on top of an already significant workload.

Finally, the analyses remained limited for this study given its focus on feasibility and acceptibility. Measures were not validated, and only questions on vignettes were previously used (Splett et al, 2019). Other measures were not considered due to the consideration of the length of time taken to complete this research. A strength of this study and its training video is its brief nature, and future trials investigating its efficacy need to take that into consideration.

Conclusion

This study explored the acceptability and feasibility of delivering a brief online mental health literacy intervention to improve identification and referral accuracy of education staff working with students aged 11-19. The intervention and research process appear feasible and acceptable to participants, and limited efficacy outcomes appear promising, though require caution and further evaluation. Analyses demonstrated increased referral knowledge and confidence in recognising mild-moderate symptoms of depression, as well as a reduction in incorrect referrals of day-to-day low mood. Given the intervention's online modality, brief nature and need for limited oversight, there is promise in this intervention to enhance mental health literacy training further. Full-scale evaluations are needed to determine effectiveness for supporting adolescent mental health.

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CHAPTER FIVE

Additional Methodology

This chapter contains information that could not be included within publications due to limitations

on word counts for the selected journals.

Additional Methodology

Empirical Paper

Detailed Procedure

Intervention Design

The first stage of the intervention development consisted of discussions between authors BC and HW (in consultation with supervisors LP and KM) around content. This focused on applicable and usable aspects of the Gateway Provider Model in conjunction with awareness of teacher need (Shelemy et al, 2019) to focus on acceptability. With regards to the Gateway Provider Model, the key messages implemented were:

1) Focus on predisposing factors of depression and anxiety (e.g., Adverse childhood experiences, risk and protective factors etc.)

2) Recognition of presence and severity of the disorder (e.g., what low mood looks like in a student, how long before it can be classified as depression, what is 'non-clinical' low mood as opposed to clinical depression etc.)

3) Enabling factors (e.g., what services are out there, how to access them, how to conduct a referral and who is responsible etc.)

4) Structural characteristics (e.g., who is responsible for referrals in schools, who to speak to etc.)

With regards to the Shelemy et al (2019) paper on what teachers want and need to support student mental health, the key messages implemented were:

1) The need for training to be engaging

2) Incorporate illustrative case studies

3) Evidence-based teaching

4) Clear understanding of school communication strategies

5) Not allowing staff to take on the role of therapist (if therapeutic responsibility is not part of their job description)

Subsequent discussion focused on the use of video-based online learning as a potential engaging modality for education staff that is easily accessible, especially considering the emergence of the Covid-19 pandemic and impact on face-to-face interactions. Short video-based mental health literacy programs have been shown to improve teacher knowledge of student mental health (Robinson-Link et al, 2020; Ueda et al, 2021) and e-learning interventions on mental health have been found to be at least as effective as traditional teaching methods of equivalent content (Hadley, 2010) while being less costly, easier to update and well accepted (Smith, Tomlin, Cipriani & Geddes, 2016).

Once content and method of delivery was decided, authors BC and HW created two 15-minute scripts for this empirical study and its sister project led by HW which focused on recognising anxiety symptoms. These scripts were created together, though each individual author focused on their disorder specific content. Revisions from the project refinement team (including Educational Mental Health Practitioners (EMHPs), Clinical Psychologists and secondary school teachers) helped inform the scripts. Key contributing members were recognised in the credits section that appeared at the end of the video. Once finalised, BC & HW created two animated videos in accordance with the scripts using Videoscribe software. License for Videoscribe was provided by University of East Anglia's learning and technology department. Due to the amount of work required to design these videos, these were done in collaboration between BC & HW with advice from the refinement team. A voice-over was recorded by BC & HW using the free audio recording software Audacity and BlueYeti professional microphones to ensure good sound quality. According to reflective journals of BC, the video design took roughly 60 hours to complete, while the audio recording and editing took around 22 hours. This does not count time spent reviewing the videos by other members of the refinement team. Once complete, the online videos were hosted on the video sharing website Vimeo. Screenshots from the depression video can

be seen in Appendix C. The depression video can be accessed through this link: https://vimeo.com/manage/videos/539607159

Vignette Design

Vignettes were designed in line with DSM-V guidance on symptoms of clinical depression and in conjunction with previous research utilising vignettes with education staff (Loades & Mastroyyanpopolou, 2010; Splett et al, 2019). A summary of symptoms of clinical depression demonstrated in each vignette can be seen below in the order of which it appears on the survey.

Pre-intervention:

- Vignette 1 (mild/moderate depression)

    o Expectation of failing upcoming exams.

    o Negative self-talk (I'm useless, I'm stupid)

    o Irritable with peers

    o Frequently tearful

    o Not sleeping well at home, falling asleep in class

    o Ongoing for several weeks with no change

- Vignette 2 (severe depression)

    o Poor sleep and fatigue, impacting on school attendance

    o Isolated from peers

    o Decreased performance in class, inability to concentrate

    o Comments on school planner of death and suicide

    o Evidence of potential plan for suicide (parent's pain killer medication)

    o Majority of symptoms ongoing for several months

- Vignette 3 (non-clinical low mood)

- o Struggling to concentrate in class

- o Lethargic and tired

- o Tearful

- o Parents recently expressed plan for divorce

- o Ongoing for one week

Post-intervention:

- Vignette 4 (mild/moderate depression)

    - o Isolated

    - o Doing poorly in class (lethargic)

    - o Often misses homework and other deadlines

    - o Decline in self-care

    - o Repeated reports of sickness and stomach aches

    - o Tearful

    - o Ongoing for several weeks

- Vignette 5 (severe depression)

    - o Self-harm and evidence of recurring thoughts of death

    - o Not eating during school/loss of appetite

    - o Lethargic in class every day

    - o Unable to rise, poor sleep

- Vignette 6 (non-clinical low mood)

    - o Tearful

    - o Difficulty concentrating in class

    - o Negative self-talk (I'm stupid)

    - o Ongoing for 1 week

    - o Evidence of attempts to improve mood

The vignettes can be seen in full in Appendix D.

Demographic questionnaires, vignettes, measures, and links to the video were all hosted online using JISC online surveys. This was chosen due to its perceived clarity for participants and simplicity for researchers to use. Two separate surveys were created for the depression and anxiety study. A link to access the depression survey can be found here: https://uea.onlinesurveys.ac.uk/depression-improving-identification-and-referrals-.

A total of seven volunteered gatekeepers disseminated the study information via a poster attachment to the email. This attachment included the title and aim of the study, eligible participant criteria, potential time needed for completion and how to participate (contact a joint email of BC and HW). This allowed participants to contact on either home or work emails. Potential participants were told to contact the joint email if they had any queries or concerns.

Ethical Considerations

Ethical approval for the study was granted by the University of East Anglia Faculty of Medicine and Health Sciences Research Ethics Committee ([FMH-REC] ref: 2020/21-031; see appendix E). All participants signed consent agreements on the online portal before being able to continue with the research. There were no gift/monetary incentives for participation. After completion of data collection, participants were sent a link where they could access the depression and anxiety videos regardless of which research they were assigned to following randomisation. Participants were encouraged to download the videos for their own personal use as the videos would be taken offline after one month from the email. Participants were also encouraged not to disseminate the videos internally in case of future efficacy trials using the video.

Amendments

All amendments of the research procedure went through the University of East Anglia FMH-REC before application within the research. Amendments were as follows:

- Added names of several gatekeepers to approved list not included in initial ethics application.

- Added social media advertisements (Facebook and Twitter) not included in initial ethics application.

The length of data collection was also repeatedly extended in attempt to recruit more participants. In total, data collection was open between May and December 2021. An out of office message was placed on the joint email to inform any other interested staff that the research was now closed.

Gatekeeper Consent

Gatekeeper consent was sought via email. This was included within the ethics application and amendments before a gatekeeper was given the study advertisement to disseminate to potential participants.

Participant Consent

Once participants declared interest and clicked the study link they were given, the first page they would see would involve the participant information sheet and consent form. In line with Health Research Authority Guidelines (2017) and using their templates, this provided a broad description of the nature and purpose of the research, why they were being invited to take part, how their information would be used and stored in line with General Data Protection Regulation (GDPR), and how they might access the study findings. For the latter point, staff could tick a box if they were interested in receiving the findings from this study. Participants had to check a box to say they read

and agreed with the statements in the consent form before continuing. Participants could close the study and return to it later (via the link) before making a decision. The participant information sheet and consent form can be found in Appendix F and G respectively.

Coercion and Withdrawal

Participants completed the research process in their own time without a member of the research team. They were sent a two-week reminder email if they had registered interest via email but had not yet completed the intervention and data collection. Only one reminder email was sent per person. It was stated in the information sheet that there were no consequences for choosing to withdraw from the study at any time. To do this, participants needed to only close the browser and their information would not be stored.

Data management and confidentiality

Data collected was pseudo-anonymised and stored on cloud-based storage through UEA systems (EU, 2017). Researchers ensured they were in private and confidential spaces before accessing data. The minimum amount of identifiable information was collected and only the research team was able to access this. Data will be kept in line with UEA research data management policy (UEA, 2019).

Rationale for included outcome measures

Questions asked following each vignette were adapted from the Teachers' Mental Health Literacy Questionnaire as reported in Loades & Mastroyyanpopoulou (2010). The items extracted from the questionnaire for use in this research were modified versions of those that can be found in Jacobs

& Loades (2016). The questions have demonstrated adequate reliability and validity (Jacobs & Loades, 2016; Loades & Mastroyannopoulou, 2010; Splett et al, 2019). Vignettes originally used in conjunction with these questions were not used in this study as they were of children who were primary school aged and displaying both internalising and externalising disorders.

Questions used were modified for this study to provide more detailed likert scales to allow for more variation in responses with a potentially small feasibility sample. Likert scales in the original questionnaire were three-point scales, which were increased to seven-point for this study. Dichotomous options in the original questionnaire (is this student presenting with a problem? Yes/No) were translated to confidence questions on a likert scales (how confident are you that this student is presenting with a mental health problem?) again to provide more variation in responses to allow more detailed interpretation of results.

Additional outcome measures

Table 6.3 shows participant responses to the question 'Please tick the box who would best support 'x' at this point' after each vignette. Participants could select multiple options, including specifying 'other' with a free text option to elaborate. A database was stored which linked participant email addresses with their participant ID so researchers knew who to contact if they had not completed the data collection after two weeks. This database was deleted following sharing of the videos with participants post data collection.

Distress

Researchers did not anticipate distress or risk to participants in taking part in this research. However, it was possible that participants may reflect on their own mental health or experiences of working with students with similar difficulties which may elicit difficult emotions. At the bottom of

every page was a reminder of appropriate contacts that could be used for participants should they experience any distress. This included contacts for the Samaritans and MIND helpline, as well as a suggestion to contact their GP if they need further support. Participants were aware from the participant information sheet that they could withdraw at any time by closing their browser tab.

As stated in the empirical paper and bridging chapter, researchers attempted to make the research process as brief as possible while still allowing the participants to receive the expected value from participation.

Debrief

In accordance with BPS ethics guidelines (2014), a debrief was offered to participants at the end of the study. This was done via the last page of the online portal which included a message thanking participants for their time, explaining again the aim of the study and why it was being conducted. Online resources were provided to participants if they were interested in learning more about adolescent mental health. This included links to the Anna Freud Centre website, YoungMinds, Samaritans and the Charlie Waller Trust. If the content of the research was considered distressing to any participants, statements encouraged them to contact their GP or seek help from the contacts provided which included Mind, Samaritans, SANE and Papyrus (for under 35s). No participants throughout the research process contacted the researchers to state that the research had caused them distress.

A lay summary of the research findings was provided for participants who expressed interest in hearing the outcomes of the study (see appendix H).

Additional analysis plan

Null hypothesis significance testing

Inferential statistics were conducted between pre and post data to determine if any change was statistically significant. Assumptions of the paired t-test were assumed to be violated due to likelihood of the distribution of the data to be skewed given education staff's assumed views and knowledge of student mental health. Therefore, the Wilcoxon signed-rank test was conducted as the non-parametric equivalent. To aid in interpretation of the statistical analysis, post-hoc power calculations were conducted to determine the statistical power of the test given the effect size estimates from the data.

Feasibility studies are often underpowered given their design and small participant pool (Orsmond & Cohn, 2015), meaning null hypothesis significance testing has a higher likelihood of committing type I or type II error. Due to this, alongside the paper's focus on feasibility and acceptability, this analysis was not included in the main findings. However, it was of interest to the researchers to conduct early preliminary testing to provide insight towards effects which may be seen in future control testing. These additional results are presented in Chapter 6.

The Wilcoxon signed rank tests were conducted to look at effects on education staff's self-reported confidence across three questions administered before and after the intervention. These were i) 'How confident are you that you could recognise signs of mild-moderate depression symptoms?' ii) 'If you spotted these signs, would you be confident in knowing what to do?' and iii) 'How confident are you in spotting the difference between "typical" low mood and when it becomes a problem?' Wilcoxon signed rank tests were also ran to compare responses to questions pre and post vignettes. Z-scores and p-values (two-tailed) were reported. Alpha level was 0.05.

Responses to vignette question 'Who would best support 'x' at this point'?

Question 5b and 5c after each vignette asked participants 'who would best support 'x' at this point (multiple choice)?' and to please explain their answer. Findings from these questions are presented in Chapter 6.

Content Analysis

A content analysis was conducted in response to the question 'If you did think X was presenting with a mental health difficulty, how would you describe it?' This question appeared after each of the six vignettes. Content analysis was conducted to understand accuracy of interpretation of vignettes based on whether they were highlighting 'non-clinical' low mood, mild/moderate or severe depression. Guidance for this process came from Rose, Spinks & Canhoto (2015), in which a coding scheme is devised using classification rules developed by the researcher to assign coding units to categories or concepts. For example, assigning the numerical code '0' to a response which incorrectly indicates anxiety as the primary mental health difficulty. These rules were developed and stored in a code book to ensure systematic and replicable coding of the data. Attempts were made to ensure each code was mutually exclusive and exhaustive so instructions for coding were clear.

Study Reflections

Reflections that did not directly add to the conclusions of the paper were not included in the journal submission. Instead, they are summarised in Chapter 6. These reflections are from the personal log of the author and though discussed with the refinement team, are indicative of the personal experience of the researcher conducting this study.

CHAPTER SIX

Additional Results

This chapter contains information that could not be included within publications due to limitations

on word counts for the selected journals.

Additional Results

Empirical Paper

Table 6.1 demonstrates education staff's self-rated confidence across three questions administered pre and post intervention. All questions demonstrated significant effects (alpha level = 0.05) post intervention. Z-scores demonstrate raw scores for each question were between 3 and 4 standard deviations above the mean based on positive ranks. Given the statistical significance across all three questions being <0.001, the rejection of the null hypothesis can be done with some confidence. However, with this being a feasibility study, interpretation must be done with caution.

Table 6.1

Wilcoxon Signed Rank Test on education staff's self-reported confidence.

	Z-Score	Sig. (2-tailed)
How confident are you that you could recognise signs of mild-moderate depression symptoms?	-3.356[a]	<0.001
If you spotted these signs, would you be confident in knowing what to do?	-3.990[a]	<0.001
How confident are you in spotting the difference between "typical" low mood and when it becomes a problem"	-3.306[a]	<0.001

Note. Z-Score = number of standard deviations above or below the mean population; Sig = significance (alpha level = 0.05); [a] = Based on positive ranks

Table 6.2

Wilcoxon Signed Rank Test for vignette questions

Question	Z-Score			Sig. (2-tailed)		
	Non-clinical	Mild/Moderate	Severe	Non-clinical	Mild/Moderate	Severe
How confident are you that X is presenting with a mental health difficulty?	-3.702[a]	-0.933[b]	-0.855[b]	<0.001	0.351	0.392
Rate how serious you think X's difficulties are.	-4.248[a]	-1.228[b]	-0.578[b]	<0.001	0.219	0.564
How concerned would you be if X was one of your students?	-4.238[a]	-1.349[b]	-0.166[a]	<0.001	0.177	0.868
How likely are you to refer this student for mental health support?	-3.555[a]	-1.887[b]	-0.921[a]	<0.001	0.59	0.357

Note. Z-Score = number of standard deviations above or below the mean population; Sig = significance (alpha level = 0.05); [a] = Based on positive ranks; [b] = based on negative ranks.

Table 6.2 demonstrates statistical significance was achieved (alpha = 0.05) across all questions on the 'non-clinical' vignettes. Z-scores demonstrate raw scores for each question on the 'non-clinical' vignette were between 3 and 5 standard deviations above the mean based on positive ranks. This points towards an increase in referral accuracy by education staff for those showing non-clinical signs of low mood that do not require specific intervention via referrals. No significant effects were found across the 'mild/moderate' and 'severe' vignette questions. Z-scores demonstrate that raw scores never exceeded 2 standard deviations above or below the mean on the 'mild/moderate' vignettes. Education staff demonstrated an already skewed view to being confident with recognising and being likely to refer 'mild/moderate' and 'severe' depression on the vignettes, so intervention appeared unlikely to have a statistically positive effect in increasing this further. Results would suggest an inability to reject the null hypothesis that the intervention had no impact on education staff's ability to recognise and refer young people with mild/moderate or severe depression.

Table 6.3.

Responses to the question "please tick the box who would best support 'x' at this point' in vignette examples:

Vignette		Low level Support			School/pastoral intervention			Community intervention		
		No one	Teachers	Parents	Pastoral Member of Staff	School Nurse/Counsellor	MHSTs	GP	CAMHS	Other
'Non-depressed'	Pre training	1	10	17	22	9	1	6	1	1
	Post training	0	25	17	16	3	0	0	0	0
'Mild/Moderate'	Pre training	0	9	14	15	14	7	11	6	2
	Post training	0	9	16	21	16	13	13	3	2
'Severe'	Pre training	0	4	14	13	12	12	16	16	3
	Post training	0	7	14	11	15	15	13	15	1

Table 6.4.

Coding Matrix and quantitative scoring for the question '"if you did think X was presenting with a mental health difficulty, how would you describe it?"

Coding	Classification Rule*	'Non-depressed'		'Mild/Moderate'		'Severe'	
		Pre Training	Post Training	Pre Training	Post Training	Pre Training	Post Training
Identified as likely depression	- Use of 'depression' or similar. - Describes symptoms of depression including: o Irritable o Sleep disturbance/fatigue o Hopelessness o Change in appetite	6	1	13	12	22	14
Identified as likely low mood	- Use of phrase 'low mood' or similar - References 'X' at risk of developing depression but not currently	4	5	2	6	1	2
Unable to identify/Unclear	- Participant unable to identify a mental health difficulty - Unclear what the participant is interpreting	2	0	0	1	1	2
Identified as anxiety	- Participant expresses 'anxiety' or anxiety related difficulty as primary problem	7	3	8	2	0	1
Identified as both depression and anxiety	- Participant mentions both anxiety and depression/low mood without reference to which is primary difficulty.	2	0	2	2	1	0
Identified as no mental health difficulty	- Participant expressed that 'x' had no mental health difficulty - Participant expressed need for support but not related to mental health	5	7	0	2	0	0
Identified as mental health difficulty other than depression/anxiety	- Use of alternative diagnostic labels other than depression/anxiety	0	0	1	0	1	2

Participant did not respond		3	11	3	4	3	8

Note: * - denotes rule established by researchers to determine category.

Table 6.3 looked at education staff's thoughts on who would best support the students from each vignette. The categorisations of 'low level support', 'school/pastoral intervention' and 'community intervention' were only used for clarity within the table and were not headings that education staff were aware of. Education staff were allowed to pick more than one option, though feedback did state some participants were unaware of this (despite text on the survey pointing this out).

Pre to post participants increased their selection of the 'teacher' option in the 'non-clinical' and 'mild/moderate' vignettes. Participants overall reduced the number of support options for those in the 'non-clinical' category, with only the 'teacher' option increasing. There was also an overall increase in participants choosing Mental Health Support Teams (MHSTs) as an option for 'mild/moderate' and 'severe' vignettes, which was explicitly described in the video. Overall, there was an increase in selection of all options for the 'mild/moderate' vignettes pre to post (excluding CAMHS).

Table 6.4 looked at responses to the question 'if you did think X was presenting with a mental health difficulty, how would you describe it?' In the first round of vignettes (pre training video) there was a total of 9 participants who did not respond, while in the second round of vignettes (post training video) there was a total 23 participants who did not respond. This number grew for each vignette as the time went on in the intervention, which could be attributed to participants having with the length of the intervention.

For the pre-training vignettes in the 'non-clinical' low mood category, the majority of participants incorrectly identified the primary difficulty of the student as anxiety over low mood or depression (n=7). This number was also high in the 'mild/moderate' vignette (n=8). Post-training, participants accurately identified the student to have no mental health difficulty in the 'non-clinical' vignette and likely to have depression in the 'mild/moderate' depression vignette. There were no key changes across the 'severe' vignettes.

Reflections from researcher diaries

Recruitment and Consent

Less than half of participants who expressed interest in the study completed the training and materials. From awareness of the survey analytics, large numbers of those that did not complete did not even begin the survey, though this may reflect education staff making an informed decision against participation. The recruitment window was also not ideal, as it incorporated school holidays (autumn half-term and Christmas) but was unavoidable due to thesis timeframe. Numerous attempts were made to prompt gatekeepers and education staff who had shown interest to boost recruitment numbers.

Recruitment was also impacted by participants not having an immediate route to participation. Education staff have busy schedules yet had to wait for researchers to respond to their email, check against inclusion criteria, allocate the participant to one of two studies, and then reply to them with the study link, which caused delays and missed opportunities. There was also heavy reliance on gatekeepers disseminating study materials. Data was not collected as to who their referring gatekeeper was, so it was difficult to know who was actively pushing the study and who was not.

Some participant data was lost when they closed the online survey before the final page. This occurred on two occasions. The online survey was edited to make this clearer, as well as providing a 'save and finish later' option, though this added another variable around time of completion which may have impacted upon results. No participants reported any confusion or need for further information regarding the information sheets and consent forms.

Data Collection

Due to the online nature of the intervention and survey, data collection was simple and required little to no time from the researchers. This was an important facilitator given the Covid-19 pandemic, which would have severely impacted upon face-to-face data collection.

Covid-19 pandemic

It is accepted that the Covid-19 pandemic and UK lockdowns impacted on this study greatly, especially with regards to education staff being able to respond and give time to the study while having to manage new ways of working, Covid-19 sickness leave, missed work alongside typical competing priorities of education staff such as exams and workload. It is believed that this would have mostly impacted upon the recruitment phase, while study design, intervention design and data collection were mostly unaffected.

CHAPTER SEVEN

Discussion and Critical Evaluation

Discussion and Critical Evaluation

The aim of this thesis was to explore ways of optimising the delivery of mental health literacy programs with education staff to improve their identification and referrals of adolescents with mental health difficulties. There is an ever-growing acknowledgement for the need to improve recognition and referral behaviour of mental health difficulties in adolescence to ensure appropriate care and support (Department of Health and Department of Education, 2017; Education and Health Committees, 2017). With a strong focus on early intervention to ensure rapid response to need, schools have become a key focus for mental health support (Soneson et al, 2020), with mental health literacy programs demonstrating good outcomes in the areas of knowledge acquisition, stigma and intention to refer for education staff (Yamaguchi et al, 2020). However, research into mental health literacy programs with this population is relatively new with little evidence pointing on optimal delivery methods to ensure maintenance of outcomes alongside sustainability factors that fit within competing priorities for schools. This research contributed to the aforementioned gaps in the literature by reviewing evidence of barriers and facilitators to mental health literacy programs with education staff, alongside exploring the feasibility of a brief online mental health literacy program to aid education staff in the identification and referral accuracy of adolescents with depression.

To the author's knowledge, the systematic review within this thesis is the first narrative synthesis to look at the barriers and facilitators of mental health literacy programs for education staff. Twenty-two studies were included in which eight themes were generated across program characteristics, provider characteristics and community factors. Common barriers related to logistical issues such as time management and competing priorities, while collaboration with education providers and blended learning strategies were seen as key facilitators for implementation. There was some indication of the disparity between education staff recognising the benefit and wanting these programs to be longer and more in depth, while the more intensive programs were more likely to

suffer from problems such as drop out, timetabling issues and data collection issues. The review supported the need for more research into the long-term outcomes of these programs in order to better understand sustainability factors for the benefit of education staff and adolescents.

The empirical study of this thesis went some way to responding to this need. Mental health literacy programs had been shown to produce outcomes on knowledge acquisition regardless of length of the intervention or delivery style (Yamaguchi et al, 2020), so the study aimed to assess whether a brief online mental health literacy program to increase recognition and referrals of adolescents with depression was an acceptable and feasible intervention, with the hope and intent for future efficacy testing if proven to be so. Twenty-nine education staff from secondary schools in England were recruited to take part in the online study which involved a 15-minute mental health literacy video on adolescent depression. Recruitment was within the range of what is considered acceptable for feasibility studies (Lancaster, Dodd & Williamson, 2004; Sim & Lewis, 2015) but did face issues, some of which was attributed to the recent Covid-19 pandemic. Feedback was largely positive, with staff reporting an increase in their knowledge and confidence to recognise and refer adolescents with suspected depressions symptoms. Staff also found the research process to be enjoyable, rewarding, and challenging. Assessments of intention to refer via vignettes demonstrated an improved accuracy of recognising adolescents who displayed 'non-clinical' low mood, though there was limited impact on vignettes of 'mild/moderate' and 'severe' depression. The intervention was deemed to be acceptable and feasible, and a full-scale evaluation is warranted. However, notable areas for improvement were discussed.

Strengths and Limitations

The systematic review offered a rigorous synthesis of the barriers and facilitators to implementation of mental health literacy programs with education staff. It is believed to effectively compliment other recent systematic reviews on the effectiveness of these programs (Anderson et al,

2019; Yamaguchi et al, 2020) while shifting the focus to implementation and how researchers can address the themes uncovered to design more robust and accepted programs that benefit multiple stakeholders.

A strength of this review is its utility in the field of implementation research. The overarching aim of implementation research is to close the gap between evidence-based practices and the extent to which research findings are integrated into real world settings (King et al, 2019; Wensing & Grol, 2019). The use of the framework for effective implementation (Durlak & Dupree, 2008) within this review allowed findings to be considered within a determinant framework that granted greater insight into barriers and facilitators that impact implementation outcomes in a hierarchical structure. This allows for researchers working alongside stakeholders at different levels to recognise opportunity for fidelity and adaptation to co-occur and impact program outcomes.

Given how themes generated in this review stem from researcher interpretation rather than objectively collected process data, attempts were made to ensure analysis was conducted in a rigorous and methodological manner so that results were considered meaningful. The choice to conduct a thematic analysis was done as it provides a highly flexible approach that produces a rich, detailed yet complex account of data (Braun & Clarke, 2006). Efforts were made to ensure the synthesis was conducted so that it was credible, transferable, and dependable in line with Lincoln & Guba's (1989) view on how to increase trustworthiness to readers so that confirmability is achieved (Nowell, Norris & White, 2017). Each theme was expanded upon in the results in line with Braun & Clarke's (2006) recommendation to help underpin the implications of the analysis and provide a level of trustworthiness of the research method.

A formal assessment of the scientific quality or biases of the selected studies was not conducted in the systematic review. However, though not essential the assessment of quality is considered a standard procedure within systematic reviews (Xiao & Watson, 2017). It could therefore be seen as a limitation that this was not conducted. Quality appraisals in similar reviews into the

effectiveness of mental health literacy programs has shown many studies to demonstrate poor quality overall (Yamaguchi et al, 2020) and it is assumed by the researchers here that similar findings would be uncovered in this review due to the overlap of several studies. The quality assessment was deemed not to be appropriate in this review as knowledge of barriers and facilitators to implementation was felt not to be dependent on the validity of the study design. Similar rationale was also given in Gee et al (2019) in their synthesis of barriers and facilitators of school-based interventions which supports its absence here.

The feasibility design of the empirical paper covered several elements of Bowen's (2008) key areas of focus for feasibility studies to ensure methodological rigour. This included outcomes on acceptability and implementation as well as discussion around practicality and demand. This could have been improved upon with greater assessment of outcomes related to long term impact of the intervention and maintenance of change regarding limited efficacy. Assessment of perceived fit within the infrastructure of mental health literacy and school mental health could also have been undertaken to better assess integration factors of the program and perceived sustainability outcomes and utility. For example, gathering feedback from Education Mental Health Practitioners who work within Mental Health Support Teams on whether this program could be utilised within their work to support school and college staff and deliver evidence-based interventions to help adolescents with mild to moderate mental health difficulties.

Other attempts were made to ensure methodological rigour. Recruitment involved multiple stakeholders from across England to ensure generalisability, though many of these were based in the Norfolk/Suffolk area. The intervention itself was designed alongside multiple stakeholders including education staff, EMHPs and clinical psychologists who consulted at multiple time points in its creation. With regards to content, particular attention was paid towards incorporating needs of education staff (Shelemy et al, 2019) alongside key elements of the gateway provider model and expert views of the refinement team to ensure a multi-factorial approach was conducted.

The choice to utilise the feasibility method was appropriate given the unique nature of the program designed. With awareness of the studies uncovered in the systematic review, the empirical paper in this thesis represents the shortest evaluated mental health literacy program with education staff in the literature. Alongside this, very few mental health literacy programs are conducted online, with the mechanisms of which poorly understood so far. A feasibility design allowed for a greater understanding of how researchers experienced the delivery of such a unique study, while also understanding how it was received by participants.

A hypothesised limitation of this paper was its restricted use of evaluated outcome measures to assess change. A vignette design was used as similar studies looking at knowledge and referral patterns of education staff had used similar methodologies (Jacobs & Loades, 2016; Loades & Mastroyanopoulou, 2010; Splett et al, 2019). The questions that followed the vignettes were adapted from Splett et al (2019) but were not assessed for reliability. The vignettes themselves were pre-tested to ensure they accurately represented different severities of adolescent depression, though further attempts could have been made to evaluate the questions used. Importantly, vignettes also do not match real life student presentation, especially the relationship between staff and student and its impact on referrals. As well, vignette studies only assess intention to refer, which has been shown to not always translate to actual referral behaviour. Given the need for limitations on the length of the research to increase participant numbers in light of education staff workload during the pandemic, the empirical paper attempted to keep the number of measures and feasibility assessments low.

Clinical and Theoretical Implications

Development and delivery of mental health literacy programs is a complex multi-level challenge. This challenge is further exacerbated by the consideration of the longevity of these programs and how their proven benefits can be maintained to help education staff and adolescents in the long term. The systematic review in this thesis adds support to the view that the design of

mental health literacy programs must be context specific, developmentally appropriate, tailored to the target population and effectively integrated into social and organisational structures to have sustainable impact (Kutcher et al, 2015b; Kutcher, Wei and Weist, 2015; McLuckie et al, 2014).

Key facilitative factors uncovered in this review include the use of co-production methodology and train-the-trainer models, both of which were seen as acceptable in supporting the development of mental health literacy programs. Co-production and collaborative design in mental health literacy programs can facilitate the evolution of individual, organisational and community capacity to respond independently to mental health needs in a sustainable manner (Osborne, Radnor & Strokosch, 2016; National development team for inclusion, 2016). As many programs delivered in LMICs were designed or adapted from programs originally from HICs, the review emphasises that co-production between researchers and local institutions can help factor in unique differences such as mental health stigma, cultural and spiritual views of mental health and typical teaching models and methods that are unique to that location to make the necessary adaptations.

The identification of the train-the-trainer model being an acceptable facilitator to program delivery is important for researchers to consider in the context of sustainability. According to the Diffusion of Innovations Theory (Rogers, 2010), individuals adopt new information better when it comes through trusted social networks (e.g., peers and colleagues) which could further improve outcomes associated with mental health literacy programs. Further research into comparing the effects of interventions that utilise these methodologies is important for optimisation of these interventions. In England, the new Mental Health Support Teams and Education Mental Health Practitioners based within education settings may be an appropriate group to train education staff to deliver or facilitate such programs or ensure improved outcomes from these programs (Yamaguchi et al, 2020) are maintained through repeated training opportunity.

Theoretically, this review is consistent with the implementation science principles of innovative training programs (Proctor et al, 2009) by providing evidence-based implementation ideas

and strategies alongside other reviews of evidence-based mental health literacy programs. The findings allow researchers in this area to develop programs which are integrated into routine use in education settings globally, so that they can be delivered effectively without the support of a research team. The findings point towards a hierarchical view of implementation within the Ecological Framework for Effective Implementation (Durlak & Dupree, 2008) that allows for both top-down (Van Meter & Can Horn, 1975) or bottom-up (Linder & Peters, 1987) application of identified themes to improve quality of these programs. It is posited by the researchers involved that the application of these facilitative factors to implementation and an awareness of common barriers in their design and delivery will reduce the gap between evidence-based practice and usual care (Proctor et al, 2009), contributing to sustainable service improvements that impose benefits across the hierarchy from policy makers, education institutions and most importantly the adolescents who suffer.

The empirical paper builds on to the outcomes in the systematic review by evaluating a brief online mental health literacy program for education staff to help identify and accurately refer adolescents with symptoms of depression. Results indicated that education staff's self-reported confidence, knowledge and ability to identify adolescents with mild to moderate depression all increased. Referral accuracy improved as there was a reduction in incorrect referrals of adolescents with 'non-clinical' low mood, while changes on other vignettes demonstrated small effect sizes.

The use of the Gateway Provider Model (Stiffman et al, 2004) to create the online mental health literacy program within the empirical paper was the first known use of a model of referral influences to test an intervention in the literature. Though the efficacy of this program was limited within the feasibility design, the promising results could be attributed to the use of this model in aiding with the focus on the often-missed aspects of referral influence, such as knowledge of service resources and how to access them that extends beyond the theory of planned behaviour. Though the intervention could not feasibly incorporate some elements of the model such as gatekeeper burden

or school organisation, it is hoped that the use of this model highlights these elements for future research to continue to utilise and investigate further.

Clinically, an online mental health literacy program appears to be feasible and acceptable to education staff at a time when they were managing workload and job stress during the Covid-19 pandemic. More research is needed to compare outcomes of mental health literacy between online and more traditional classroom-based teaching. If results are comparable, then the feasibility benefits described within the empirical paper may make online programs an enticing option. As stated in the recommendations by Yamaguchi et al (2020), this thesis echoes the need for researchers in the field of mental health literacy programs to focus on the long-term effects of these interventions.

Overall Conclusions

With the increased focus on education settings to play a more active role in supporting their student's mental health, ensuring education staff are adequately supported and trained to identify mental health difficulties in adolescence is a global priority. Mental health literacy programs have shown good outcomes on staff knowledge, but the research is limited on the long-term sustainability of improvements. This thesis portfolio contributes to the current research by uncovering several barriers and facilitators to these interventions with sustainability in mind. It also investigated the feasibility of a brief online mental health literacy program which holds promise as a cost-effective and resource light intervention, though further efficacy testing is needed.

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117

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Appendix A: Author Guidelines for Journal of Child and Adolescents Mental Health

Why submit to *Child and Adolescent Mental Health*?

- An international journal with a growing reputation for publishing work of clinical relevance to multidisciplinary practitioners in child and adolescent mental health
- Ranked in ISI: 67/129 (Pediatrics); 121/156 (Psychiatry); 100/143 (Psychiatry (Social Science)); 89/131 (Psychology, Clinical).
- 7,319 institutions with access to current content, and a further 6,696 institutions in the developing world
- High international readership - accessed by institutions globally, including North America (34%), Europe (34%) and Asia-Pacific (11%)
- Excellent service provided by editorial and production offices
- Opportunities to communicate your research directly to practitioners
- Every manuscript is assigned to one of the Joint Editors as decision-making editor; rejection rate is around 82%
- Acceptance to Early View publication averages 5 weeks
- Simple and efficient online submission – visit http://mc.manuscriptcentral.com/camh_journal
- Early View – articles appear online before the paper version is published. Click here to see the articles currently available
- Authors receive access to their article once published as well as a 25% discount on virtually all Wiley books
- All articles published in CAMH are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF)

1. Contributions from any discipline that further clinical knowledge of the mental life and behaviour of children are welcomed. Papers need to clearly draw out the clinical implications for mental health practitioners. Papers are published in English. As an international journal, submissions are welcomed from any country. Contributions should be of a standard that merits presentation before an international readership. Papers may assume any of the following forms: Original Articles; Review Articles; Innovations in Practice; Narrative Matters; Debate Articles.

CAMH considers the fact that services are looking at treating young adults up until the age of 25, with the evidence that brains continue to develop until the age of 25, as well as the fact that a lot of issues that affect young adults and students are also relevant and topical to older adolescents. CAMH offers a discretionary approach and will take into consideration papers that extend into young adulthood, if they are pertinent developmentally to the younger population and contribute further to a developmental perspective across adolescence and early adult years.

Authors are asked to remember that CAMH is an international journal and therefore clarification should be provided for any references that are made in submitted papers to the practice within the authors' own country. This is to ensure that the meaning is clearly understandable for our diverse readership. Authors should make their papers as broadly applicable as possible for a global audience.

Original Articles: Original Articles make an original contribution to empirical knowledge, to the theoretical understanding of the subject, or to the development of clinical research and practice.

Review Articles: These papers offer a critical perspective on a key body of current research relevant to child and adolescent mental health. The journal requires the pre-registration of review protocols on any publicly accessible platform (e.g. The International Prospective Register of Systematic Reviews, or PROSPERO).

Short Research Articles: Short Research Articles should consist of original research of any design that presents succinct findings with topical, clinical or policy relevance. For example, preliminary novel findings from pilot studies, important extensions of a previous study, and topical surveys.

Letters to the Editor: These are short articles that offer readers the opportunity to respond to articles published in CAMH. Letters must only discuss issues directly relevant to the content of the original article such as to add context, correction, offer a different interpretation, or extend the findings.

Innovations in Practice: These papers report on any new and innovative development that could have a major impact on evidence-based practice, intervention and service models.

Narrative Matters: These papers describe important topics and issues relevant to those working in child and adolescent mental health but considered from within the context and framework of the Humanities and Social Sciences.

Debate Articles: These papers express opposing points of view or opinions, highlighting current evidence-based issues, or discuss differences in clinical practice.

Technology Matters: These papers provide updates on emerging mental health technologies and how they are being used with and by children and young people.

2. Submission of a paper to *Child and Adolescent Mental Health* will be held to imply that it represents an original submission, not previously published; that it is not being considered for publication elsewhere; and that if accepted for publication it will not be published elsewhere without the consent of the Editors.

3. Manuscripts should be submitted online. For detailed instructions please go to: **http://mc.manuscriptcentral.com/camh_journal** and c*heck for existing account* if you have submitted to or reviewed for the journal before, or have forgotten your details. If you are new to the journal c*reate a new account.* Help with submitting online can be obtained from the Editorial Office at ACAMH (email: **publications@acamh.org**)

4. Authors' professional and ethical responsibilities

Disclosure of interest form
All authors will be asked to download and sign a full Disclosure of Interests form and acknowledge this and sources of funding in the manuscript.

Ethics
Authors are reminded that the *Journal* adheres to the ethics of scientific publication as detailed in the ***Ethical principles of psychologists and code of conduct*** (American Psychological Association, 2010). These principles also imply that the piecemeal, or fragmented publication of small amounts of data from the same study is not acceptable. The Journal also generally conforms to the Uniform Requirements for Manuscripts of the International Committee of

Medical Journal Editors (**ICJME**) and is also a member and subscribes to the principles of the Committee on Publication Ethics (**COPE**).

Informed consent and ethics approval
Authors must ensure that all research meets these ethical guidelines and affirm that the research has received permission from a stated Research Ethics Committee (REC) or Institutional Review Board (IRB), including adherence to the legal requirements of the study county. Within the Methods section, authors should indicate that 'informed consent' has been appropriately obtained and state the name of the REC, IRB or other body that provided ethical approval. When submitting a manuscript, the manuscript page number where these statements appear should be given.

Preprints
CAMH will consider for review articles previously available as preprints. Authors may also post the submitted version of a manuscript to a preprint server at any time. Authors are requested to update any pre-publication versions with a link to the final published article. Please find the Wiley preprint policy **here**.

Note to NIH Grantees
Pursuant to NIH mandate, Wiley-Blackwell will post the accepted version of contributions authored by NIH grant-holders to PubMed Central upon acceptance. This accepted version will be made publicaly available 12 months after publication. For further information, see **www.wiley.com/go/nihmandate**.

Recommended guidelines and standards
The Journal requires authors to conform to CONSORT 2010 (see **CONSORT Statement**) in relation to the reporting of randomised controlled clinical trials; also recommended is the **Extensions of the CONSORT Statement** with regard to cluster randomised controlled trials). In particular, authors must include in their paper a flow chart illustrating the progress of subjects through the trial (CONSORT diagram) and the CONSORT checklist. The flow diagram should appear in the main paper, the checklist in the online Appendix. Trial registry name, registration identification number, and the URL for the registry should also be included at the end of the methods section of the Abstract and again in the Methods section of the main text, and in the online manuscript submission. Trials must be registered in one of the ICJME-recognised trial registries:

Australian New Zealand Clinical Trials Registry
Clinical Trials
Netherlands Trial Register
ISRCTN Registry
UMIN Clinical Trials Registry

Manuscripts reporting systematic reviews or meta-analyses will only be considered if they conform to the **PRISMA Statement**. We ask authors to include within their review article a flow diagram that illustrates the selection and elimination process for the articles included in their review or meta-analysis, as well as a completed PRISMA Checklist. The journal requires the pre-registration of review protocols on any publicly accessible platform (e.g. The International Prospective Register of Systematic Reviews, or PROSPERO).

The **Equator Network** is recommended as a resource on the above and other reporting guidelines for which the editors will expect studies of all methodologies to follow. Of particular note are the guidelines on qualitative work **http://www.equator-network.org/reporting-guidelines/evolving-guidelines-for-publication-of-qualitative-research-studies-in-psychology-and-related-fields** and on quasi-experimental **http://www.equator-**

network.org/reporting-guidelines/the-quality-of-mixed-methods-studies-in-health-services-research and mixed method designs **http://www.equator-network-or/reporting-guidelines/guidelines-for-conducting-and-reporting-mixed-research-in-the-field-of-counseling-and-beyond**

CrossCheck
An initiative started by *CrossRef* to help its members actively engage in efforts to prevent scholarly and professional plagiarism. The journal to which you are submitting your manuscript employs a plagiarism detection system. By submitting your manuscripts to this journal you accept that your manuscript may be screened for plagiarism against previously published works.

5. Manuscripts should be double spaced and conform to the house style of *CAMH*. The title page of the manuscript should include the title, name(s) and address(es) of author(s), an abbreviated title (running head) of up to 80 characters, a correspondence address for the paper, and any ethical information relevant to the study (name of the authority, data and reference number for approval) or a statement explaining why their study did not require ethical approval.

Summary: Authors should include a structured Abstract not exceeding 250 words under the sub-headings: Background; Method; Results; Conclusions.

Key Practitioner Message: Below the Abstract, please provide 1-2 bullet points answering each of the following questions:

- **What is known?** - What is the relevant background knowledge base to your study? This may also include areas of uncertainty or ignorance.
- **What is new?** - What does your study tell us that we didn't already know or is novel regarding its design?
- **What is significant for clinical practice?** - Based on your findings, what should practitioners do differently or, if your study is of a preliminary nature, why should more research be devoted to this particular study?

Keywords: Please provide 4-6 keywords use **MeSH Browser** for suggestions

6. Papers submitted should be concise and written in English in a readily understandable style, avoiding sexist and racist language. Articles should adhere to journal guidelines and include a word count of their paper; occasionally, longer article may be accepted after negotiation with the Editors.

7. Authors who do not have English as a first language may choose to have their manuscript professionally edited prior to submission; a list of independent suppliers of editing services can be found at **http://authorservices.wiley.com/bauthor/english_language.asp**. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

8. Headings: Original articles should be set out in the conventional format: Methods, Results, Discussion and Conclusion. Descriptions of techniques and methods should only be given in detail when they are unfamiliar. There should be no more than three (clearly marked) levels of subheadings used in the text.

9. All manuscripts should have an Acknowledgement section at the end of the main text, before the References. This should include statements on the following:

Study funding: Please provide information on any external or grant funding of the work (or for any of the authors); where there is no external funding, please state this explicitly.

Contributorships: Please state any elements of authorship for which particular authors are responsible, where contributorships differ between author group. (All authors must share responsibility for the final version of the work submitted and published; if the study include original data, at least one author must confirm that he or she had full access to all the data in the study and takes responsibility for the integrity of the data in the study and the accuracy of the data analysis). Contributions from others outside the author group should also be acknowledged (e.g. study assistance or statistical advice) and collaborators and study participants may also be thanked.

Conflicts of interest: Please disclose any conflicts of interest of potential relevance to the work reported for each of the authors. If no conflicts of interest exist, please include an explicit declaration of the form: "The author(s) have declared that they have no competing or potential conflicts of interest".

10. For referencing, *CAMH* follows a slightly adapted version of APA
Style **http:www.apastyle.org/**. References in running text should be quoted showing author(s) and date. For up to three authors, all surnames should be given on first citation; for subsequent citations or where there are more than three authors, 'et al.' should be used. A full reference list should be given at the end of the article, in alphabetical order.

References to journal articles should include the authors' surnames and initials, the year of publication, the full title of the paper, the full name of the journal, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated. References to chapters in books should include authors' surnames and initials, year of publication, full chapter title, editors' initials and surnames, full book title, page numbers, place of publication and publisher.

11. Tables: These should be kept to a minimum and not duplicate what is in the text; they should be clearly set out and numbered and should appear at the end of the main text, with their intended position clearly indicated in the manuscript.

12. Figures: Any figures, charts or diagrams should be originated in a drawing package and saved within the Word file or as an EPS or TIFF file.
See **http://authorservices.wiley.com/bauthor/illustration.asp** for further guidelines on preparing and submitting artwork. Titles or captions should be clear and easy to read. These should appear at the end of the main text.

13. Footnotes should be avoided, but end notes may be used on a limited basis.

Data Sharing and Supporting Information

CAMH encourages authors to share the data and other artefacts supporting the results in the paper by archiving them by uploading it upon submission or in an appropriate public repository. Examples of possible supporting material include intervention manuals, statistical analysis syntax, and experimental materials and qualitative transcripts.

1. If uploading with your manuscript please call the file 'supporting information' and reference it in the manuscript.

2. Please note supporting files are uploaded with the final published manuscript as supplied, they are not typeset.

3. On publication your supporting information will be available alongside the final version of the manuscript online.

4. If uploading to a public repository please provide a link to supporting material and reference it in the manuscript. The materials must be original and not previously published. If previously published, please provide the necessary permissions. You may also display your supporting information on your own or institutional website. Such posting is not subject to the journal's embargo date as specified in the copyright agreement. Supporting information is made free to access on publication.

Full guidance on Supporting Information including file types, size and format is available on the **Wiley Author Service** website.

For information on Sharing and Citing your Research Data see the **Author Services website here**.

Original Articles

Original Articles make an original contribution to empirical knowledge, to the theoretical understanding of the subject, or to the development of clinical research and practice. Adult data is not usually accepted for publication unless it bears directly on developmental issues in childhood and adolescence.

Your Original Article should be no more than 5,500 words including tables, figures and references.

Review Articles

Research Articles offer our readers a critical perspective on a key body of current research relevant to child and adolescent mental health and maintain high standards of scientific practice by conforming to systematic guidelines as set out in the **PRISMA statement**. These articles should aim to inform readers of any important or controversial issues/findings, as well as the relevant conceptual and theoretical models, and provide them with sufficient information to evaluate the principal arguments involved. All review articles should also make clear the relevancy of the research covered, and any findings, for clinical practice.

Your Review Article should be no more than 8,000 words excluding tables, figures and references and no more than 10,000 including tables, figures and references.

Short Research Articles

Short Research Articles should consist of original research of any design that presents succinct findings with topical, clinical or policy relevance. For example, preliminary novel findings from pilot studies, important extensions of a previous study, and topical surveys. Short Research Articles will be peer reviewed and authors might be asked to revise and edit their article to acceptable standards for publication. Short Research Articles should follow standard guidelines, such as STROBE for observational studies, CONSORT extension for pilot trials etc.

Your Short Research Article should be 1500 words, excluding references, tables and graphs/figures. Your article should be structured, including the subheadings Introduction/Methods/Results/Discussion. There is a maximum of 1 table and 1 graph/figure.

Please do not include more than 12 references.

Narrative Matters: The Medical Humanities in CAMH

These articles are both submissions and directly commissioned papers. They will be peer-reviewed. The articles should be on a humanities topic relevant to those working in child and adolescent mental health. The topics can include but are not restricted to: aspects of child mental health service history; representations of abnormal mental states or mental illness in children and teenagers in film, literature or drama; depictions of child mental health clinicians within popular culture; ethical dilemmas in the speciality. Interest and originality are valued. If in doubt, please contact the section editor: **Gordonbates@virginmedia.com**

The essays should be between 1500 and 2000 words and written for an audience of child mental health professionals. For publishing reasons, there is an upper limit of 8 references for the article. Additional references may be given in the text if necessary.

Letters to the Editor

Letters to the Editor are short articles that offer readers the opportunity to respond to articles published in CAMH. Letters must only discuss issues directly relevant to the content of the original article such as to add context, correction, offer a different interpretation, or extend the findings. Letters will be evaluated for relevance to the index paper, scientific merit, and importance.

Letters should be submitted not later than 2 weeks after publication of the print issue of the Journal containing the paper of interest. Please note - all papers are published on Early View as soon as they are accepted. The letters should avoid personal attacks and unscholarly communication.

Letters will not be peer reviewed. However, the section Editor will review the letters and might consult another Editor before acceptance or rejection.

Due to the short length of this article type, your Letter should be between 500 and 700 words with a maximum of one figure or table. If in doubt, please contact the section editor **c.ani@imperial.ac.uk**

Innovations in Practice

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Appendix B: Author Guidelines for British Journal of Educational Psychology

BJEP AUTHOR GUIDELINES

Sections

1. Submission
2. Aims and Scope
3. Manuscript Categories and Requirements
4. Preparing the Submission
5. Editorial Policies and Ethical Considerations
6. Author Licensing
7. Publication Process After Acceptance
8. Post Publication
9. Editorial Office Contact Details

1. SUBMISSION

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- Keywords;
- Data availability statement (see Data Sharing and Data Accessibility Policy);
- Acknowledgments.

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Appendix C: *Sample images from the mental health literacy program developed for the empirical*

study
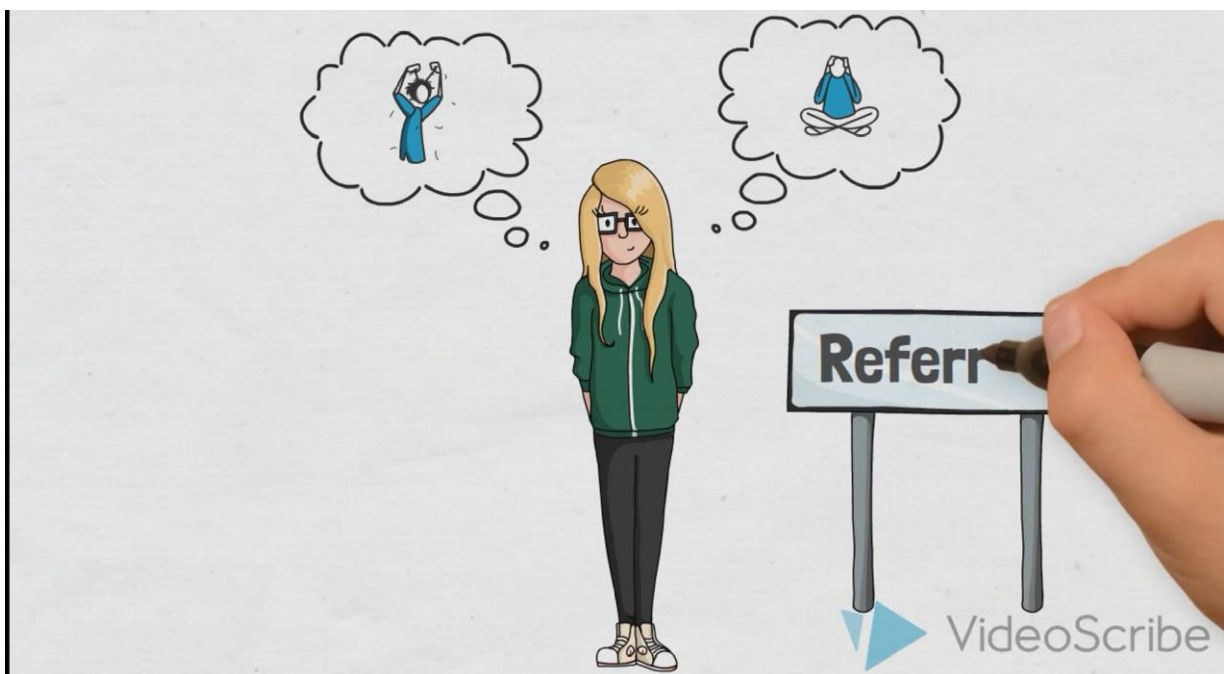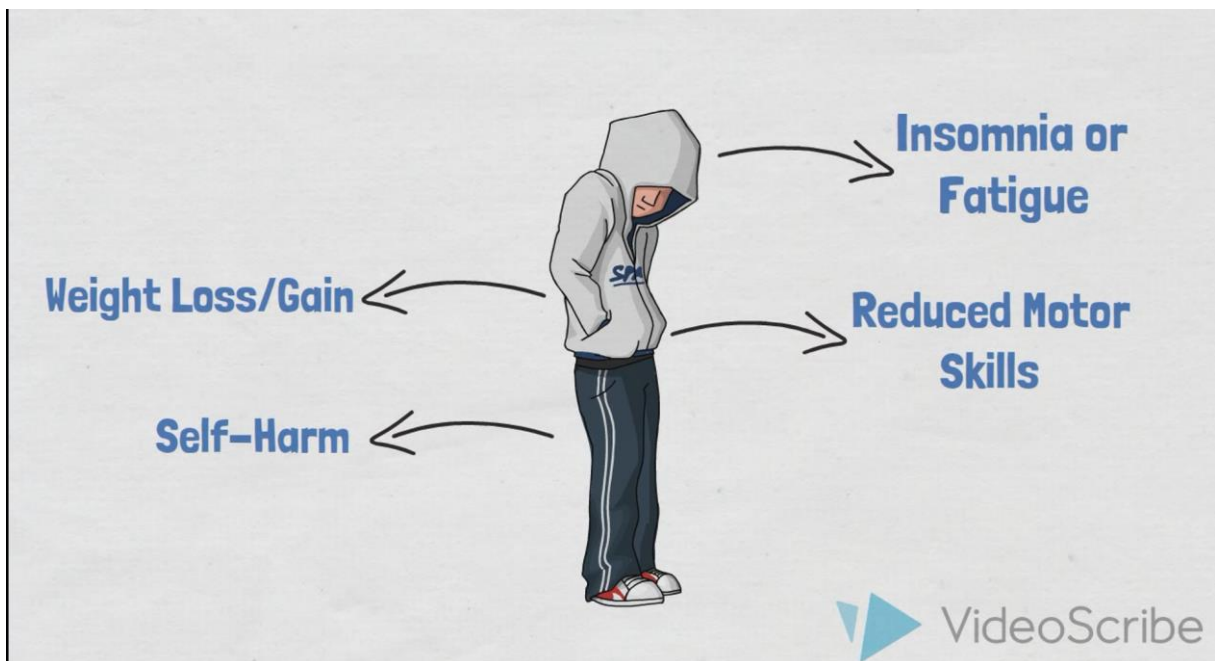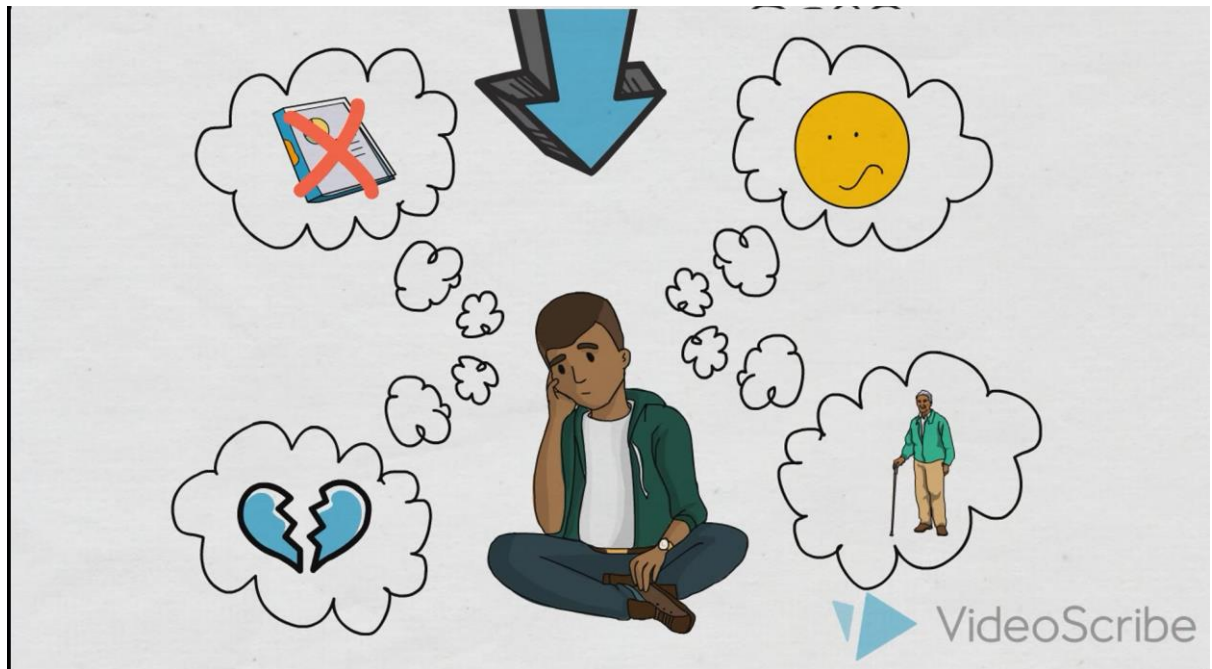
Vignette 1 of adolescent with mild/moderate depression (pre-intervention)

D is 15 years old and in year 11. The other day, another pupil informed you that they saw superficial scars (cuts) on the back of D's legs when getting changed for P.E. When asked about this, D stated that they were old cuts and that they didn't want to talk about it. What they did express was that they're worried about their upcoming GCSE's. Though you know this is common for students, D has repeatedly expressed the expectation that they are going to fail, that they are 'stupid' and 'useless' at exams and everyone is going to be disappointed in them. In class they are doing fine, no noticeable change in their grades but they have been more irritable with their peers, becoming tearful at times. More recently, you've heard that D hasn't been sleeping well and has dozed off in some classes at the end of the day. From your estimates, it seems like this has been going on for several weeks now with no change.

Vignette 2 of adolescents with severe depression (pre-intervention)

J is 14 years old. Though they have a history of absenteeism, the past month you have noticed that they have missed almost as many days as they've been at school. J's parents say that J is incredibly difficult to rise in the morning. J often stays up till the early hours struggling to sleep, and their parents are unsure of what they can do without physically getting them out of bed. It has been like this for a few months now. J's parents are currently in the process of separating and it is unclear as to the arrangements for J in the future. You've noticed over the last few weeks that J is mostly alone at break and lunch times, doesn't seem to be socialising with peers in and out of class and is completing just enough work to get by. Yesterday, another pupil came to you expressing concern regarding J's mental health. They stated that J has various phrases written over their school planner relating to death and

suicide. J expressed that they know where their mum keeps her pain medication and has been thinking about taking it themselves.

Vignette 3 of adolescent with non-clinical low mood (pre-intervention)

L is 15 years old and currently in year 10. Over the last week you have noticed that L has been a lot quieter in class. They seem to be struggling to concentrate during lessons and their quality of work has dropped slightly. L did not attempt to complete the homework you set the other day and had no excuse or reason why they hadn't done it, other than that they "forgot", which was unusual for L. At times they look like they're lethargic and tired, especially during morning classes. Other teachers have also reported the same thing as you, and that L has been asking to go to the bathroom the last few days and sometimes returns appearing red-eyed as if they had been crying. You have been made aware by L's parents that they are moving to a new house at the moment and this has been stressful for them all, including L.

Vignette 4 of adolescents with mild/moderate depression (post-intervention)

T is 14 years old and in year 10. They recently moved schools from out of area and have been here for just over a month now. You have noticed over the last few weeks or so that T has been bullied both in and out of class by other pupils despite attempts to stop it. You have spoken to T about this, but they say that they're fine and can cope with it. At break and lunch times T is often on their own. Despite reports of their academic performance being high from their previous school, T is doing fairly poorly in class. They seem lethargic, often misses homework and other deadlines and has turned down opportunities for support from some peers and other teachers. More recently, you have noticed a decline in their self-care, which other pupils have also commented on. For the past week or so, T has often reported sickness and stomach aches just before lunch time and has requested his mum be

called to take him home early. When this has been declined, he has been tearful and difficult to console.

Vignette 5 of adolescent with severe depression (post-intervention)

K is 15 years old and in year 10. They have always appeared reserved and quiet in class and around school but historically have been known to have a small circle of friends and have always done fairly well in class without much cause for attention or concern. Recently, a friend of K's spoke to you to say that they were concerned about K's mental health. They said that K keeps a broken ring binder in her bag which she uses to self-harm on her legs and arms in the school bathrooms. You have noticed that K always wears long sleeves even in hot weather and almost always has a note excusing them from P.E. When they do not, they have been known to hide in the school bathrooms. It also appears that K is not eating during lunch times and you feel like they've appeared more lethargic in class recently. For the past three days, K has not been at school, and their mother has stated that they can't get them out of bed at any time of the day.

Vignette 6 of adolescents with non-clinical low mood (post-intervention)

P is 15 years old and in year 11. Last week P and other pupils in the year received their results back from their mock exams. P did not perform as they expected and received much lower grades than they had hoped. Since then, P has been visibly upset in classes and around school and is finding it difficult to concentrate in class. Unfortunately, several of P's friends did very well, and you have heard P say things like "I'm stupid" and "I wish I was smarter" to those around them. In hope to help this, P has signed up for some after school homework clubs this week to help with their revision and has asked you for more help with subjects they struggle with.

Appendix E: UEA FMH Ethics approval for empirical paper

Ben Carroll and Harriet Wickson

Norwich Medical School

University of East Anglia
Norwich Research Park
Norwich
NR4 7TJ

NORWICH MEDICAL SCHOOL

Bob Champion Research & Educational
Building

Rosalind Franklin Road

University of East Anglia

Norwich Research Park

5th November 2020

Dear Ben and Harriet

Title: A brief online training intervention to support education staff to recognise and refer young people aged 11-19 with anxiety and depression symptoms: A feasibility study

Reference: 2020/21-031

The submission of your research proposal has been considered by the Faculty Research Ethics Committee.

The Committee is happy to approve your application in principle but has the following concerns which it would like you to address please:

- The Committee needs to approve all study materials but has not yet seen everything.
- You have provided one gatekeeper consent from Alison Leishman, but are also recruiting from other sources. Please provide copies of all gatekeeper consents.
- Please explain the randomisation process for assignment to either the depression or anxiety training package.
- As you are keeping a separate spreadsheet with participants' email addresses and assigned participant numbers, this is actually pseudo-anonymised data rather than anonymised data

and should be referred to as such.   Please consider whether you actually need to retain email addresses once all participants have been provided with the study material.

- Please confirm that you will be using a UEA laptop to store data.
- Given COVID-19, you sensibly propose to carry out your research remotely.   Please confirm the confidentiality rules which you will observe.
- Your reference to HRA guidance on consent and preparation of participant information is not actually to the latest version, which is v1.02 03.05.2018 released in 2019. Please amend this throughout your proposal.

PIS
- In the section "Why have I been asked to take part?" you should also set out that participants have been invited because of the organisation they work for and their role within it ie Regional Department for Education Lead, Mental Health Support Teams, CEOs, Heads of Schools and Heads of Multi Academy Trusts and education support staff for young people aged 11-19.
- Please remember to include UEA as the research sponsor.
- The PIS should set out how participants can complain about the way their **data** has been handled (by contacting, the UEA Data Protection Officer).

Consent form
- Please include the version number and date of the PIS.
- You should refer to the Data Protection Act 2018 as well as GDPR.
- Please include a confidentiality statement re involvement in the study and data storage.
- If you plan to share research data outside the UK, you should seek participants' explicit consent.

Please write to me once you have addressed the above issues. The Committee has requested that you detail the changes below the relevant point on the text in this letter and also include your amendments as a tracked change within your application/proposal. The revisions to your application can be considered by Chair's action rather than go to a committee meeting, which means that the above documentation can be resubmitted by email to fmh.ethics@uea.ac.uk at any time.

As your project does not have ethics approval until the above issues have been resolved, I want to remind you that you should not be undertaking your research project until you have ethical approval by the Faculty Research Ethics Committee. Planning on the project or literature-based elements can still take place but not the research involving the above ethical issues. This is to ensure that you and your research are insured by the University and that your research is undertaken within the University's 'Guidelines on Good Practice in Research' approved by Senate in July 2015.

Yours sincerely

Dr Jackie Buck
Chair
FMH Research Ethics Committee

Page 1: Information Sheet

Research Information Sheet

Thank you for your interest in our research project.
This information sheet tells you about two studies looking at brief online training for school staff, focusing on:

1. **Recognising and referring young people with depression symptoms**

led by Ben Carroll (Trainee Clinical Psychologist)

1. **Recognising and referring young people with anxiety symptoms**

led by Harriet Wickson (Trainee Clinical Psychologist)

Please read this information sheet and if you have any questions feel free to contact one of the research team (contact details below).

Why are we doing this research?
1 in 7 young people suffer with a mental health difficulty, with depression and anxiety being the most common mental health difficulties in young people. These difficulties can have a negative impact on a young person's education, relationships and future adult life. This means that early recognition and support is incredibly important.

New government guidance asks schools and school staff to play an important role in recognising early signs of mental health difficulties and refer to services. New Mental Health Support Teams are being introduced by the Government to support students with mild-moderate mental health difficulties, within education settings.

However, research has found that school staff do not feel they have had enough training to identify early signs of mental health difficulties in students, or what to do if they are concerned. It can also be challenging to find time, money and resources for in person training. This brief online training package hopes to address these challenges; specifically looking at recognition and referral of early signs of depression or anxiety symptoms.

Why have I been asked to take part?
Before a new intervention is fully tested in a large research study, it is a good idea to do a smaller trial, called a feasibility study, so that we can answer certain questions about whether the intervention is suitable, practical and liked by education staff. We can use the findings of feasibility studies to change the intervention or the way we run the study in the future.

What is involved?
Taking part in the study will involve watching a training video either on depression or anxiety and completing four questionnaires. This will all be done online so you have the flexibility to do this at a time and location that suits you.

You will be randomly assigned to either the depression or anxiety training package. However, you will be given access to both after data has been collected from all participants.

The first questionnaire will ask for information about yourself and your role in school or college, followed by a questionnaire about 3 case examples of students (vignettes), who may or may not be showing signs of a problem. This should take approximately 10 minutes.

You will then be shown the brief online training video, approximately 15 minutes. The video is made up of three sections. After you have watched the video you will be asked to complete two more questionnaires. One questionnaire includes 3 new vignettes, followed by the same questions as before. The other questionnaire asks about your experience of the taking part in

the study and the training. This should take approximately 15 minutes. At this point your part in the research is finished.

What happens to the results of the research?
The results of the research will be shared through presentations, publications and using social or national media. When we share the results, no one will be able to know you took part as we will make sure it is all anonymous and unidentifiable. On the consent form, you will be asked if you would like us to share a copy of the findings with you. If you mark "yes", we will send this to you once the research has finished.
Other researchers working on similar topics might ask to look at the results of our study as it could help them with their own research. Any results we share would all be anonymous.

What are the benefits of taking part?
We hope that this study will help improve our understanding of how to deliver training to education staff and support their ability to recognise early signs of depression or anxiety in their students. This is an important step in helping young people access support and services. You will also have the benefit of receiving the free, online training aiming to improve your knowledge and ability to recognise signs of depression and anxiety, and what to do if you are concerned.

Is there anything I should be worried about if I take part?
We do not expect there to be any risk to you taking part in either studies. However, your rights and wellbeing are always the priority of the research team. If at any point you feel uncomfortable or distressed please do contact the research team (see contact details below) or access the support contacts which will be available at the bottom of every page on the website.

Do I have to take part?
No – it is entirely up to you! There will be no consequences if you do not wish to get involved. Taking part is completely voluntary.
You can withdraw from the study at any point by pressing the 'x' on the tab and closing the browser window. You will not be asked to give any more information. Once you have responded to the questionnaires, everyone's anonymised responses will be put together for analysis. This means it would not be possible to withdraw information you have already given at that point.

What if there is a problem or something goes wrong?
If you are worried about anything relating to the research, please speak to someone from the research team and we will try our best to help you. If you have a complaint about the research or researchers, please contact Niall Broomfield at n.broomfield@uea.ac.uk. This person is separate from this research study so you can speak to them in confidence.

Where will my information be stored?
Your information will be anonymised using your participant number in databases stored on password protected computers or password protected cloud-based storage used by the researchers. The email address you contact researchers on will only be available to them and will not be shared. Your email address will be permanently deleted from the database once the research is complete.
The current studies have been approved by the Faculty of Medicine and Health Sciences Research Ethics Committee, at UEA.
If you are happy to take part in either research studies please click CONTINUE below. This will take you to the consent form.

Thank you for your interest in the research project.

The Research Team

Ben Carroll	Trainee Clinical Psychologist at UEA
Harriet Wickson	Trainee Clinical Psychologist at UEA
Dr Laura Pass	Clinical Psychologist and lecturer at UEA
Kiki Mastroyannopoulou	Clinical Psychologist and lecturer at UEA

Email: wicksoncarroll.research@uea.ac.uk

Contact Details for Support
If you feel concerned about your wellbeing during or following this study, we have listed some support helplines below. These will also be available on each page of the questionnaire should you need them. We also advice you to contact your GP if you need further support.
Samaritans: 08457 90 90 90 (Free confidential 24hr helpline)
MIND Helpline: 0300 123 3393 (Mon-Fri 9AM-6PM)

Appendix G: *Consent Form from empirical study (copied from online survey)*

Page 2: Consent Form

Please tick in each box if you agree with the following statements:

(If you select 'no' to any of the questions on this page, you will not be able to continue with the research. You may close the browse at any point)

I confirm that I have read the participant information sheet on the weblink for the above study. I have had the opportunity to consider the information and, if needed, I have been able to ask questions via email contact and have had these answered satisfactorily. *Optional*

[▼]

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my rights being affected. *Required*

○ Yes

○ No

I understand that if I withdraw from the study after already completing some measures, I will not be able to withdraw the contribution I have already made before that point, but I will not be asked to give any more information. *Optional*

[▼]

I understand that the information collected from me may be used to support other research in the future, and may be shared anonymously with other researchers. *Optional*

[▼]

I consent to the storage and processing of personal information and data for the purpose of this study. *Optional*

[▼]

I understand that the information gathered during the study will be treated as strictly confidential and handled in accordance with the EU General Data Protection Regulation 2018. *Optional*

[▼]

I would like a copy of both studies' findings. *Optional*

[▼]

8. I agree to take part in either study. *Optional*

[▼]

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Appendix H: Lay Summary for Empirical Paper

Dear Participant,

Thank you for taking part in the recent research project looking at an online training program to help education staff recognise and refer adolescents with common mental health problems. This research is now complete. As you selected the option to receive a copy of the results from the research, this email summarises some of the key findings which were uncovered.

This research was a feasibility study. This type of study helps us work out whether the training video is suitable and practical for education staff and whether any adaptations are needed before a full-scale test of the video's effectiveness is done. Half of staff recruited were shown a video recognising symptoms of anxiety, while the other half were shown a video recognising symptoms of depression. Before and after the video, staff were asked sets of questions to find out their knowledge and confidence in recognising these symptoms in adolescents as well as how likely they might be to refer them for support. This included the use of several vignettes which showed students who may be experiencing these mental health difficulties. Feedback was also received on how participants found taking part in the research.

The results showed that participants found both training videos to be clear, concise, engaging and informative. The majority felt that the training videos was suitable to education settings, though some people did think it was tailored more to secondary schools than sixth forms or colleges. Most participants enjoyed taking part in the research overall with some suggestions for changes to the questions and vignettes.

When we compared participant responses before and after the training video, there was a large shift in participants' confidence to recognise anxiety or depression in students, as well as an increase in their perceived ability to be able to tell the difference between "typical" low mood and anxiety and when it has become a problem. Participants also expressed they were more confident in knowing what to do if they recognised these difficulties after watching the videos.

After the depression video specifically, participants were able to more accurately identify students who were not experiencing depression than they were before the video. However, there was small to no change on vignettes of 'mild to moderate' difficulties and 'severe' difficulties as staff already seemed to be good at recognising these. After the anxiety video, staff were able to more accurately identify students across all three levels (not experiencing anxiety, 'mild to moderate' anxiety and 'severe' anxiety) than they were before the study.

As this was only an early test of this training with a small sample, these results are interpreted with caution. However, it is hoped in the future that further studies will look into the effectiveness of this training video as it has been shown to be acceptable and feasible in this study. Below are links to both training videos and we have also attached a downloadable resource which includes some of the key points from the videos. These videos will be accessible for 30 days following this email before they will be made private. Please do not share them with your colleagues as this may impact any future research we conduct with education staff.

Once again, we would like to thank you for your participation and engagement with the research during this time.

Kind Regards,

Benjamin Carroll & Harriet Wickson
Trainee Clinical Psychologist
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