

**The development of a peer-led,
theory-informed mental health
promotion intervention and evaluation
of its impact on high school pupils and
undergraduate pharmacy students**

A thesis submitted to the University of Manchester for the degree of
Doctor of Philosophy in the Faculty of Biology, Medicine and Health

2021

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Word Count: 84356

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List of abbreviations

CPD	Continuing professional development
ELT	Experiential learning theory
GPhC	General Pharmaceutical Council
HP	Health promotion
ILO	Intended learning outcomes
MHP	Mental health promotion
MPharm	Master of Pharmacy
MRC	Medical Research Council
NHS	National Health Service
PE	Peer education
PIS	Participant information sheet
PSHE	Personal, social, health and economic
RCT	Randomised control trial
SAQ	Self-administered questionnaire
SL	Service-learning
SPSS	Statistical Package for Social Sciences
UK	United Kingdom
UoM	University of Manchester
US	United States
Y9	Year 9
WHO	World Health Organization

Abstract

Background For individuals who have a mental health disorder or illness, 50% of these are established by the age of 14. School-based mental health promotion (MHP) interventions can effectively target large groups of young people at a time they are vulnerable to the onset of mental health disorders and illnesses. Service-learning (SL) is a type of experiential learning which can be used in healthcare courses to enable connection between undergraduate students and the local community, with mutual benefit for both groups. Within Master of Pharmacy (MPharm) degree programmes there is a need to ensure that graduates possess the skills to successfully progress to professional practice. This programme of work aimed to develop a MHP intervention which would be delivered to high school pupils by MPharm students as part of a SL programme at the University of Manchester (UoM) and evaluate its impact.

Methods The PhD programme of work was mapped to the Medical Research Council (MRC) Framework for the development and evaluation of complex interventions. During the Development Phase a scoping review established the impact of school-based MHP interventions and identified key components within the interventions. These findings were used to develop the MHP intervention. Acceptability testing was completed using focus groups with key stakeholders (high school pupils) to complete development. A feasibility study and main study to investigate the impact on mental health awareness (knowledge and attitudes about mental health, public stigma, language towards mental health, help-seeking and social distance) of high school pupils and the MPharm students were then completed. Self-administered questionnaires were used to gather data from the high school pupils and were analysed both cross-sectionally and longitudinally at three time points (at baseline immediately pre-intervention, one week post-intervention and three months post-intervention). Reflective records and focus groups were used to gather data from the MPharm students and were analysed using a deductive framework method.

Results The MHP intervention contained four components. Each of the four components were found to be acceptable to stakeholders during testing. The MHP intervention had a positive impact upon the mental health awareness (knowledge and attitudes about mental health, public stigma, language towards mental health, help-seeking and social distance) of the high school pupils; few differences were seen between male and female participants. The SL programme met the intended learning outcomes and allowed MPharm students to learn professional skills such as communication, collaboration and working within professional limits through practical application and reflection.

Conclusions Overall the MHP intervention delivered as part of a SL programme at the UoM was successful in having a positive impact on both the high school pupils and the MPharm students as service-learners. The use of the MRC Framework provided a robust structure on which to base the programme of work to ensure methodological rigour.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning

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Acknowledgements

Firstly I would like to thank my supervisors, Dr David Allison and Dr Sarah Willis. To David, thank you for your initial encouragement to complete my PhD and for your constant support and belief in me throughout. To Sarah, thank you for your expert guidance and your kind words - you have enabled me to improve and develop so much. You both helped me to be successful, whilst teaching me the importance of life outside of my PhD. Also thank you to Dr Doug Stenike, your chats were always much appreciated.

To my colleagues in the Division of Pharmacy and Optometry, thank you for all your support. I would particularly like to thank Esnath Magola, Jayne Astbury, Liz Seston and Cathy Morgan for all your guidance and advice, especially at the beginning of my PhD whilst I was finding my feet. Thank you to my fellow PhD students for always being there for a chat (work-related or otherwise) and a big thank you particularly to Alex Trafford. Although it was chance that sat us on desks next to each other, it was my sheer persistence against all your protests that made us friends... In all seriousness, you have been such a huge support for me over the last four years, whether it was helping me work through research ideas or simply going for a walk around the park - I really couldn't have done it without you!

Thank you to Health Education England for the funding to complete this PhD. Many thanks to Nicola Knowles at Loreto High School for all her support and enthusiasm for the project, and to all of the pupils who participated. Thank you also to all of the MPharm students who participated and provided such helpful insights.

To my friends, thank you for your encouragement and for reminding me the importance of having fun. Thank you particularly to Cait Robinson for your selfless decision to proofread this thesis! To Dad, Mum and Laura, thank you for always trusting my judgement and supporting my decisions. You taught me to aim high and that I could achieve anything I put my mind to and I could not have completed or even started my PhD journey without knowing that.

And finally, the biggest thank you of all to my husband Charlie. You are my greatest supporter and without your unmatched patience and kindness (and coffee provisions) I would not be in the position I am today. Thank you.

The author

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Dissemination of research

Published Papers

- I. **Williams E**, Allison D.G & Willis S.C (2020). Development and acceptability testing of a mental health promotion intervention using the Medical Research Council Framework. International Journal of Health Promotion and Education
- II. Allison D.G, **Williams E** & Willis S.C & (2019). Peer education: an effective teaching approach to supporting pharmacy undergraduate and high school pupil learning. International Journal of Pharmacy **9(2)**: 19-23.
- III. Allison D.G & **Williams E** (2018). Getting started in public engagement: how to deliver effective talks and presentations. The Pharmaceutical Journal, **online**. DOI: 10.1211/PJ.2018.20205266
- IV. Lewis E, **Williams E**, Lewis P & Allison D.G (2015). Success4Life: An aspirational programme for Looked After Children. Journal of Widening Participation and Lifelong Learning. **17**: 116-127.

In Preparation

- I. **Williams E**, Allison D.G & Willis S.C (2021). Using service-learning to promote mental health. Pharmacy Education Journal.

Conference abstracts and contributions

Peer reviewed conference abstracts

- I. **Williams E**, Allison D.G, Willis S.C (2020) Health promotion in high schools: a service-learning approach Pharmacy Education.
- II. **Williams E**, Allison D.G, Willis S.C (2019) Undergraduate-led mental health promote on in high schools: impact upon pharmacy students. Pharmacy Education. Vol. 19, p224
- III. Allison D.G, Willis S.C & **Williams, E** (2019). Peer-education: an effective pedagogical approach to supporting pharmacy undergraduate and high school student learning. Pharmacy Education. Vol. 19, p225

Peer reviewed conference contributions

- I. **Williams E**, Allison D.G, Willis S.C (2019) The development and evaluation of a peer-led, school-based mental health promotion intervention. **Themed oral presentation and discussion board** – Health Initiatives for the Adolescent. 9th International Conference of Health, Wellness and Society, University of California, USA.
- II. Willis, S.C., **Williams, E.** & Allison, D.G (2019). Health promotion in high schools: student reflections on a core curriculum activity. **Oral presentation.** 10th Biennial Monash Pharmacy Education Symposium, Prato, Rome.
- III. **Williams E**, Allison D.G, Willis S.C (2019) Impact on educators and learners of a peer education approach to delivery of a mental health promotion intervention to high school pupils by pharmacy undergraduate students in Manchester. **Poster presentation.** 9th Nordic Health Promotion Research Conference, Roskilde University, Denmark.
- IV. **Williams E**, Allison D.G, Willis S.C (2019) Undergraduate-led mental health promotion in high schools: impact upon pharmacy students. **Oral presentation.** Pharmacy Education Conference, University of Manchester, UK.
- V. Allison D.G, Willis S.C, **Williams, E** (2019). Peer-education: an effective pedagogical approach to supporting pharmacy undergraduate and high school student learning. **Oral Presentation.** Pharmacy Education Conference, University of Manchester, UK.
- VI. **Williams E**, Allison D.G, Willis S.C (2018) Using peer education to deliver a mental health promotion intervention in high schools. **Oral presentation.** International Festival of Public Health, University of Manchester, UK.
- VII. **Williams E** , Allison D.G, Willis S.C (2018) Using peer education to deliver a mental health promotion intervention in high schools. **Oral presentation.** Division of Pharmacy and Optometry Postgraduate Research Showcase, University of Manchester, UK.
- VIII. **Williams E**, Allison D.G, Willis S.C (2018) The development and evaluation of a peer-led, school-based mental health promotion intervention. **Oral presentation.** Doctoral Academy Graduate Society Postgraduate Research Conference, University of Manchester, UK.

Achievement

Winner of the Outstanding Teaching Innovation in Social Responsibility category at the Making a Difference awards at University of Manchester, May 2020.

Chapter 1. Introduction and background to research

1.1 Introduction

This thesis describes the development and evaluation of a mental health promotion (MHP) intervention. The MHP intervention was delivered by third year Master of Pharmacy (MPharm) students from the University of Manchester (UoM) as part of a service-learning (SL) programme to year 9 (Y9) pupils aged 13-14 years at a local high school. There are two distinct parts to the thesis: firstly, the development of the MHP intervention itself; and secondly, an evaluation of the impact upon the high school pupils receiving the intervention and on the MPharm students delivering the intervention. The PhD programme of work is mapped against the Medical Research Council (MRC) Framework for the development and evaluation of complex interventions.

The rationale for designing a MHP intervention aimed at high school pupils was that mental health disorders and illnesses are common and are often established before the age of 14.¹ Mental health promotion is a useful approach for providing individuals with the resources and knowledge to enhance well-being.² Health promotion (HP) interventions can be delivered in different ways, including by peers.³ Peer education (PE) is a teaching and learning method that builds on the principle that people learn certain skills, knowledge and behaviours more effectively from individuals of a similar social status than from traditional authority figures.⁴

Peer education was used to deliver the intervention with MPharm students as peer educators and high school pupils as peer students. They did this as part of a SL programme at the UoM. Service-learning is an innovative pedagogic approach which

involves undergraduate students in community engagement, with the aim of achieving outcomes that are beneficial to both groups.⁵

1.2 Thesis structure

This chapter provides the background to the PhD programme of work. Mental health and MHP are considered, particularly in relation to young people, as well as methods to develop interventions targeted at mental health. Peer education and SL are discussed, as pedagogies for teaching and learning, as is experiential learning theory. A rationale for the research is provided, as well as overall aims and objectives for the whole PhD programme of work.

Chapter 2 reports a scoping review completed to establish the impact of school-based MHP interventions and to identify the theoretical frameworks, targets, components, outcomes and evaluation methods within these interventions. The chapter concludes with a draft logic model to provide structure to the planning and design process based on the findings from the scoping review.

Chapter 3 presents the results of focus groups completed with high school pupils to test the acceptability of the content of the proposed MHP intervention. A refined logic model is presented at the end of the chapter based on the outcomes of the acceptability testing.

Chapter 4 presents the details of the feasibility study and the main study, reporting the methods used and results of the impact of the MHP intervention on high school pupils. Changes made to the intervention following the feasibility study are also presented.

Chapter 5 presents findings from a qualitative exploration of the impact on MPharm students of participating in the SL programme. The chapter describes the methods used and describes benefits of SL in particular relating to skill and professional development, as well as the extent to which the intended learning outcomes (ILOs) for the programme were achieved.

Chapter 6 presents the overall discussion, including summaries of Chapters 2, 3, 4 and 5 and implications for MPharm degree programme providers and higher education-high school collaborations. Strengths and weaknesses of the research are presented as well as recommendations for future research.

1.3 Background to research

The background to the research is presented next in four main parts. Firstly a general overview of the MPharm degree programme in the United Kingdom (UK) is presented. Next the pedagogy behind the SL programme within the MPharm curriculum is discussed, including a summary of current research of SL within pharmacy programmes. Following this an introduction to mental health, particularly that of young people, is presented as well as MHP; within this section there is also focus on the role of PE in HP. The final section provides background to the approach used in this PhD programme of work to develop complex interventions such as MHP interventions

1.3.1 Overview of undergraduate pharmacy education

The most commonly followed route to becoming a pharmacist in the UK involves the successful completion of an MPharm degree (4 years) in a university setting, followed by twelve months pre-registration training in clinical practice. Pharmacy education has changed in recent times; there is now more emphasis on competency and professional practice skills than a focus on only pharmaceutical sciences.⁶ This is in line with the changing role of a pharmacist, as due to the increased pressures on the National Health Service (NHS), the role has expanded beyond dispensary-based tasks to include more clinical roles such as prescribing but also the need for a greater skill mix generally.^{7,8} For example, pharmacists are expected to be able to deliver person-centred care and demonstrate behaviours such as collaborative-working and professional judgement. This is highlighted within the Standards for Pharmacy Professionals produced by the pharmacy regulator, the General Pharmaceutical Council (GPhC).⁹ Within these standards it is clear that every pharmacy professional is expected to play a positive role in supporting a person's healthcare decisions.⁹

Undergraduate pharmacy education is evolving to prepare graduates to meet these standards. The MPharm degree programme is regulated by the GPhC who require key learning outcomes in relation to knowledge, skills, understanding and professional behaviours to be met by students. The GPhC produced new Standards for the Initial Education and Training of Pharmacists in 2021.¹⁰ Although the research within this PhD programme of work was completed before these new standards were released, as these are now the most up to date standards for undergraduate pharmacy education it seems appropriate to refer to these within this thesis to draw out the relevance to future and current pharmacy education. The new standards have been updated in response to the

growing policy recognition of the important role pharmacists play within healthcare. The standards emphasise application of knowledge and skills such as professional judgement and consultation. The standards also emphasise a pharmacist's role in shared decision-making and the importance of empowering members of the public to be able to contribute and make decisions surrounding their health, and to engage in prevention of illness.¹⁰

The MPharm degree programme is unlike other healthcare degrees as it is classed as a science discipline and not a health discipline and therefore is funded in this manner; no additional funding is provided for experiential learning.¹¹ This means that the majority of student learning is provided by a higher education institution using on-campus pedagogies, such as lectures and workshops, with fewer opportunities for learning in a clinical environment compared to medicine or nursing degree programmes. Due to the funding and structure of the MPharm degree programme, placements are also much shorter than those provided by other healthcare courses and consequently time for professional knowledge and skill development is limited.¹¹ Therefore the learning taking place during placements within the MPharm must be worthwhile and contribute to relevant learning outcomes. One possible way of providing meaningful learning that also develops key professional skills, knowledge and attitudes is SL, a method promoting experiential learning. This is described in further detail in the following section.

1.3.2 Pedagogy of service-learning

1.3.2.1 Experiential learning

Experiential learning is learning that takes place through experiencing a certain activity. Experiential learning sees the emphasis move from the educator teaching and the student being passive, to become about the learner actively learning.¹² David Kolb's experiential learning theory (ELT) is the most well-known theory used in experiential learning.¹³ Kolb took influences from other theorists when developing ELT, including John Dewey who argued that, "All genuine education comes about through experience...not all experiences are genuinely or equally educative".¹⁴ In other words, although learning can happen through experience not all experiences offer educational value. For an experience to be educational there must be time for active reflection by students. This is what Kolb refers to as experiential learning, which is:

"The process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience."¹³

Experiential learning is an active form of learning, where learning occurs as knowledge is created and reinforced through experiences and reflection.¹⁵ Although the core of experiential learning is that learning is a continuous process that occurs throughout everyday life, it is particularly relevant to understanding students' learning in new contexts.¹⁶ Kolb developed the experiential learning cycle (Figure 1.1) which conceptualises four stages to learning.¹³

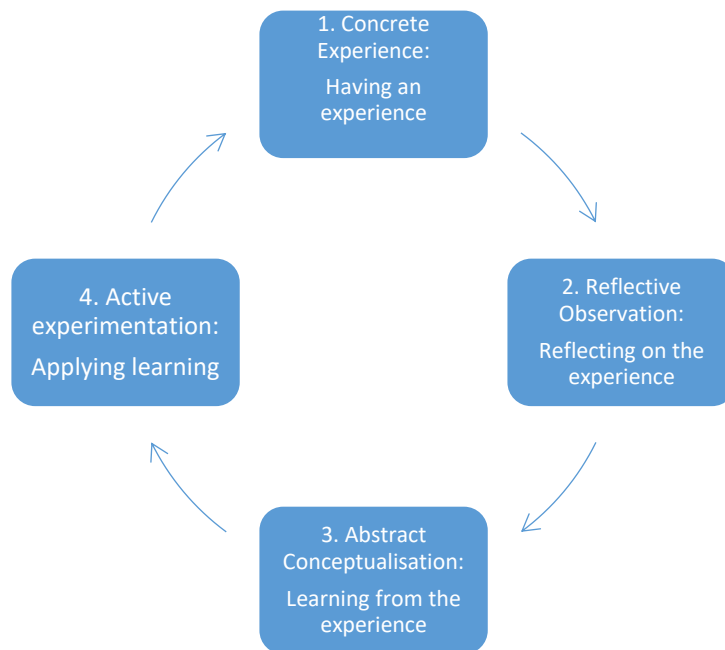


Figure 1.1 Stages of Kolb's experiential learning cycle

For experiential learning to be effective, a learner must be able to achieve all four stages; each of the four stages works in combination and not as a lone process. First a learner needs to be actively involved when participating in the experience itself. Next they need the ability to reflect effectively. Thirdly the learner must be able to conceptualise the experience to be able to learn from it and finally they must possess the skills to be able to apply the learning in the future to new situations. The role of the educator in this cycle is to support the student's own individual learning process.¹⁶ By involving students in these educational experiences, it exposes them to real-life situations and allows them to take responsibility for their own learning.

1.3.2.2 Service-learning

Service-learning is a form of experiential learning that originated in the United States (US) but is now used across the globe.¹⁷ Service-learning has many definitions, however one of the most influential studies describes SL as needing to “include a balance between service to the community and academic learning... the hyphen symbolises the

central role of reflection in the process of learning through community experience”.¹⁸ This is a clear representation of how reflection is essential and at the core of SL, and all experiential learning. Service-learning is distinct from other forms of experiential learning, for example clinical placements and volunteering. The balance beam approach (Figure 1.2) illustrates this distinction, displaying the difference in focus and beneficiaries of different types of experiential learning. Service-learning gives equal focus to the service to the community and the learning for the students, to ensure both groups benefit equally.¹⁹

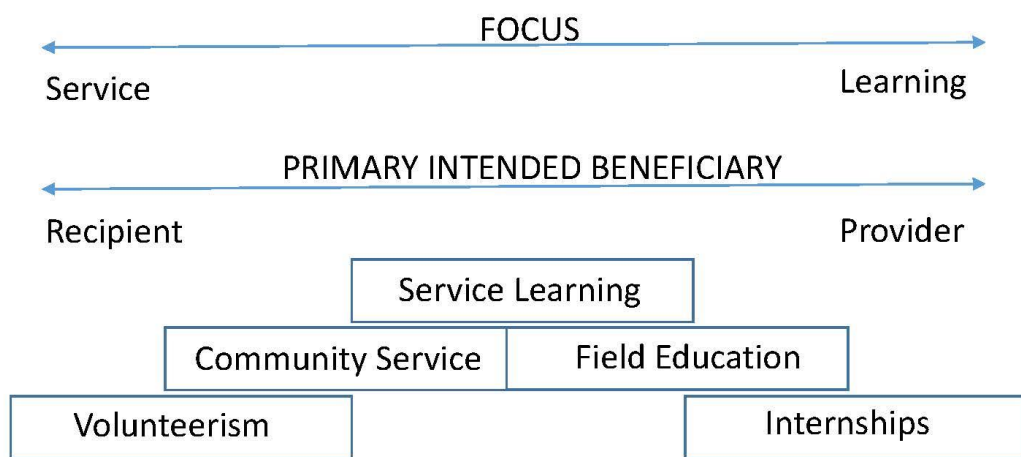


Figure 1.2 The balance beam approach (amended from Furco (1996))

Historically SL has been seen by higher education institutions as peripheral to more traditional teaching methods.¹⁸ However there is a growing body of evidence that suggests not only does participating in SL improve the academic achievement of students, it offers additional benefits for both the students and the community. Moreover the use of SL within higher education is in line with the recognition that as well as providing students with an academic education, it is important that universities prepare students to contribute to society upon graduation.¹⁶ This preparation, enabled by SL programmes, has been incorporated into many different disciplines including

marketing and design technology, although within healthcare courses it has most often been used in relation to community needs and public health.²⁰⁻²²

Service-learning is known to enhance traditional education; it is an effective way to show students there is more to teaching and learning than just course content.^{21, 23} One of the main benefits of SL is that, although it allows for the development of knowledge, it focuses on application of knowledge and the skills that need to be acquired to do this. It is known that participating in SL programmes allows students to develop skills such as collaborative working, problem-solving, communication, and many more.²³⁻²⁵ These skills are often viewed as secondary to academic goals of learning; however, within SL these are the key learning outcomes.¹⁸ Developing these skills encourages students to think about learning in a different manner, and switches the emphasis to self-directed, life-long learning and reflection, and away from more traditional didactic teaching.¹⁸ By enabling students to apply knowledge to real-life situations this allows connections to form between different areas of their professional practice thus creating an enhanced academic experience.²⁶

For university educators who choose to provide SL programmes, the benefits can exceed those described for individual students. Many universities recognise the importance of community and public engagement²⁷ and within the UK there is growing interest in the importance of establishing relationships between universities and the local community, and recognising these within the core values of individual universities.²⁸ At the UoM, where this PhD programme of work took place, social responsibility is one of three core goals within its overall strategic plan. The UoM also lists civic engagement, a known benefit of SL,²⁵ as part of its core vision and strategic plan that underpins all of the work

completed by the university.²⁹ It is clear that the inclusion of SL programmes contributes to the overall goal of universities whilst also benefiting students involved in providing a service to the community.

The limitations to SL must be recognised, however. Although there is a growing body of evidence as to the effectiveness of SL programmes in the literature,³⁰ a review by Mc Menamin *et al.* found a lack of robust methodologies used to evaluate SL programmes. Mc Menamin *et al.* concluded that while there is a benefit to SL, outcome-based evaluation is needed to strengthen the evidence base,⁵ a sentiment echoed by Celio *et al.* in a meta-analysis completed on the impact of SL on students.³⁰ Given the lack of clear impact, educators may be cautious about introducing SL programmes. Additionally, providing a SL programme is time-consuming and resource heavy; this needs to be considered by academic staff before implementation to ensure the SL provision is of high quality and a worthwhile experience for the students and communities involved. Service-learning programmes also need to be able to fit within a university course timetable and this should be considered at the outset so that maximum benefits can be obtained;²³ as well as ensuring adequate training and support is provided to students undertaking the programme.³¹

1.3.2.3 Service-learning in pharmacy

Development of skills such as problem-solving and communication is a priority for healthcare students who on qualification need to be competent to engage with communities and become part of a multi-disciplinary team. Experiential learning, and more specifically SL, can be used to support development of such skills. Service-learning has also been used successfully to enable healthcare students to develop their

communication skills, social accountability, self-confidence and understanding of empathy.³¹⁻³⁵ Although the GPhC requires MPharm degree programmes to include placements, these do not necessarily include placements in non-clinical community settings. Thus a recent survey of experiential learning in MPharm degree programmes found that the settings for experiential learning were mainly community pharmacies, hospitals, primary care sites and industry.³⁶ Others such as outpatient clinics, prisons, charities, and hospices were offered on an optional basis to smaller groups of students. There are many benefits of experiential learning in community settings which can help prepare students to become healthcare professionals equipped with an understanding of and ability to assess and treat community needs.

Service-learning is built upon learning through reflection, an approach that also underpins pharmacists' continuing professional development (CPD).⁷ The GPhC Standards for Pharmacy Professionals state that pharmacists must be able to "reflect on the application of their knowledge and skills and keep them up-to-date".⁹ Reflection enables pharmacists to identify their strengths and weaknesses, as a way to improve future practice. However it is a complex skill which must be learned and practised; thus in order for pharmacists to be able to reflect effectively, reflection should be included within the MPharm degree programme⁷ and it is likely that this is why the Standards for the Initial Education and Training of Pharmacists also include the same statement about the need for reflection.

Service-learning has been widely implemented within undergraduate pharmacy education in the US, but is noticeably lacking in undergraduate pharmacy education in the UK. It has been used to support learning of a range of topics; for example Falter *et*

al. evaluated a programme where pharmacy students taught high school pupils about healthy nutrition.³³ Evaluation of the programme suggests that SL can have a positive impact upon pharmacy students (improved knowledge about nutrition and professional development) and members of the community (improved knowledge about nutrition).³³ Other topics such as chronic diseases within the community, diabetes management in children and health clinics for the homeless community have also adopted a pharmacy student SL approach.^{32, 34, 37} This has led to knowledge development in the associated areas for both the pharmacy students and the community, although it must be acknowledged that research into impacts upon the community seems much more limited.

Following on from these examples of SL programmes in the US, the use of SL within UK MPharm programmes could be particularly relevant when teaching about public health. Public health is a major strand of the MPharm degree programme that aims to prepare students for HP interventions that pharmacists are expected to provide in practice.³⁸ However, looking at MHP specifically, a study by Hanna *et al.* showed that although pharmacy students seemed to have appropriate attitudes towards mental health and those with mental health disorders or illnesses, they lacked confidence when discussing mental health with patients.³⁹ In addition, a study by Rutter *et al.* of all UK MPharm degree programmes found that although the majority of MPharm programmes teach the clinical aspects of mental health, such as the illnesses and disorders themselves and treatment options, there is a lack of opportunity for students to contextualise this knowledge.⁴⁰ It was reported here that there is a lack of mental health teaching that was not directly related to medications, which may lead to graduates having a narrow view of mental health. Consequently Rutter *et al.* recommended that a more holistic view

would be appropriate to teach MPharm students about mental health, with experiential learning opportunities encouraged.⁴⁰ Teaching MPharm students not only about the medications involved in the treatments of mental health disorders and illnesses but also about MHP could contribute to addressing this need. Mental health promotion will be part of a student's future practice as a pharmacist and therefore it is important students develop confidence in the relevant knowledge, skills and attitudes during the MPharm degree programme. Service-learning programmes could be used to address this gap and evidence of the scale of mental health disorders and illnesses and thus the importance of the role of MHP is presented next.

1.3.3 Mental health

1.3.3.1 Definition

The World Health Organization (WHO) defines mental health as:

“a state of well-being in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community.”⁴¹

Mental health, together with physical health make up an individual's overall health status.⁴¹ Good mental health is not merely the absence of mental health disorders or illness. It allows individuals to live their lives and contribute to society⁴² and is associated with improved physical health, capability, employment rates and reduced health risk behaviours.⁴²

There is a positive relationship between people who experience mental health disorders or illness and those who also develop health and social problems.⁴³ For example, those

who have a mental health disorders or illness are more likely to struggle academically and abuse substances.⁴⁴ There are both risk factors and protective factors for mental health. Sometimes these risk factors may be out of the individual's control; for instance poverty and social disadvantage are known to have a strong association with mental health disorders or illnesses.⁴⁴ The protective factors for mental health disorders or illness can often mitigate the effects of risk factors.⁴⁵ In this respect a child born into a home with many risk factors will not necessarily go on to develop a mental health disorder or illness if they have enough protective factors and the skills needed to develop these. Protective factors include good physical health, good self-esteem, appropriate social skills, opportunities for involvement in school life, positive role models and opportunities for leisure.⁴⁴

Mental health and young people

Globally, approximately one in four young people have an identifiable mental health disorder or illness.⁴⁶ These can be described as “causing distress to the child or having a considerable impact on the child's day to day life”.⁴⁷ Additionally 50% of mental health disorders and illnesses that continue into adulthood are established by the age of 14 and this increases to 75% by the age of 24.¹ In 2020 a report by NHS Digital found that since 2017 there has been an increase in mental health disorders or illness in both male and female adolescents in the UK, with one in six children aged five to 16 identified as having a probable mental health disorder or illness, compared to one in nine in 2017. There is also a treatment gap amongst children and young people; approximately 25-35% of those with a diagnosable mental health disorder or illness seek help and treatment.⁴⁸ In the context of the recent COVID-19 pandemic these rates are likely to be higher. A recent rapid review concluded that rates of depression and anxiety in children

and adolescents would likely increase due to social isolation.⁴⁹ This was echoed by a survey published by YoungMinds, a mental health charity, which stated 83% of participants felt the pandemic had had a negative impact upon their mental health.⁵⁰

When looking more specifically at rates of mental health disorders or illness in young people from birth to 17 years in Manchester, where this PhD programme of work took place, the rates are lower than the national average (75.9 per 100,000 compared to 84.7 per 100,000). In terms of age groups, children aged 11 to 16 years old are more likely than those aged five to 10 years old to experience a mental health disorder or illness.⁴⁷

1.3.3.2 Mental health promotion

Mental health promotion can be described as providing individuals with the resources and knowledge to enhance well-being.² Enhancement of well-being contributes to an individual's overall health⁵¹ and in this way physical and mental health and their promotion are linked.⁵² However, although they are linked, the outcomes of general HP and MHP are different.⁵³ General HP targets various public health topics but MHP only targets mental health.⁵¹

Mental health promotion and high schools

There has been an increase in the perceived importance and relevance of teaching young people about mental health. It is important for MHP interventions to target young people at a stage in their lives when they can be vulnerable to the onset of mental health problems, and provide them with the appropriate information and skills to promote good mental health. Much of the health related knowledge, attitudes and behaviours taken through to adulthood are formed as a child or teenager.⁵⁴ Hence, if healthy

behaviours are taught at an early age the potential risk of illness and disease should decrease.

Using schools as a setting for HP interventions is known to be beneficial as this is where young people spend a lot of their time.⁵⁵ School-based HP interventions are an efficient and effective way of targeting large numbers of young people at the same time.⁵⁶ Health promotion is currently taught in the English national curriculum within Personal, Social, Health and Economic (PSHE) education; however it is not mandatory for schools to teach PSHE and teaching is variable in terms of content and teaching methods.⁵⁶ A recent review found that one to three percent of schools in England do not teach PSHE in any form, and that as PSHE education is neither compulsory nor examinable it was seen as less important by both teachers and pupils alike.⁵⁷ Consequently, while PSHE education has the potential to have a positive impact on pupils' views and behaviour⁵⁸ because it is often not covered extensively in schools, there is an opportunity for this gap in provision to be filled.

School-based interventions are known to be effective; however it is reported that most studies provide detail of relatively short-term impact, with no indication of any longer term sustained impact.⁵⁹ Weare and Nind systematically reviewed reviews of mental health work in schools to identify the impact of interventions upon mental health as well as features of effective interventions.⁶⁰ They found that although there were common intervention types used by studies, the same type of intervention did not necessarily lead to the same outcomes. They also identified effective characteristics of interventions with interactive activities such as the use of games and group work or multi-modal interventions more effective than didactic and a single mode approach. Another

characteristic found by the review was that the effectiveness of the intervention can be shaped by who delivers the intervention, whether this be experts in the field, teachers or peers. In this context, peers and teachers were more consistently associated with effective delivery.⁶⁰

Weare and Nind also found that the length of an intervention can impact its effectiveness. There was some evidence that short term interventions (eight-10 weeks) were effective, but more evidence that interventions of a minimum of nine months were effective. Furthermore, Weare and Nind suggest that it is important that implementation of an intervention was of high quality, grounded in a “sound theoretical base... [with] well-defined goals and rationale” as well as a clear outcome focus. To ensure implementation is high quality training for those involved and well-defined guideline were also found to be important.⁶⁰

1.3.3.3 Peer education

Health promotion and specifically MHP can be delivered in many ways by various individuals. These include field-experts, teachers or peers.⁶⁰ Peer education is known to be effective in the delivery of HP interventions in schools⁶¹ and for this reason has been selected as an appropriate method of delivery for the intervention in this PhD programme of work.

Peer education builds on the principle that people can learn certain skills, knowledge and behaviours more effectively from individuals of a similar social status than from traditional authority figures.⁴ Although age is the most commonly used factor to determine this mutual social status, other factors such as gender, culture and ethnicity⁶²

can also be used when building a PE programme. Peer education is a complex tool and one that has many different approaches and applications. Peer education is a popular method of teaching a varied number of topics including academic subjects and HP.^{63, 64}

Peer education can be described as formal or informal. Formal PE generally takes place in school or other educational environments and can be seen as being closer to traditional teaching with clear aims and objectives.⁶² This makes it easier to assess the impact, especially in comparison with informal PE based around everyday interactions between peers.⁶² Although informal PE is a more natural process it is harder to evaluate the effectiveness of informal interventions due to the casual nature of the interactions between peer educator and learner.⁶⁴

The benefits of PE have been found to be varied and widespread.⁶⁵ Trautmann described PE as the formalisation of day to day interactions. Although the process of PE can happen organically, for a PE programme to be successful, it must be structured so that data can be analysed and outcomes measured. There are reported benefits for both the peer educators and the target group of peer learners.^{62, 66, 67} For the peer learners the outcomes tend to be specific to each project, such as uptake of HP services⁶⁸ or an increased knowledge of a topic. Other outcomes of PE programmes include stress reduction and overall academic improvement.⁶³ Peer education has also been shown to increase the confidence and motivation of peer learners,^{69, 70} as well as allowing them to feel more comfortable interacting with peer educators.⁷¹⁻⁷⁵

The effects on peer educators themselves seem to be more orientated towards personal development.⁶⁶ In a study by Badura *et al.* peer educators' leadership skills, knowledge of a topic and individual health behaviours increased after working on a PE programme. These personal health behaviours were directly related to the topics the peer educators

had been teaching, such as safer sexual practices.⁶⁷ Self-esteem and self-acceptance have also been known to improve amongst peer educators.⁷⁶

The first limitation of PE is the very definition of a peer is ambiguous and therefore open for interpretation.⁷⁷ This in turn makes assessing the true scale and impact of PE interventions more difficult because PE is known by many different names including peer-assisted learning, peer tutoring, peer helping and more.⁷⁶ Each of these names can be interpreted in a different way depending on what the educator plans to deliver so comparisons become challenging. Peer educators not being adequately trained and supported can lead to poor outcomes of PE programmes.⁷⁸ While there will inevitably be variation in the abilities of students to teach,⁶³ training can address this so that peer learners experience a consistent teaching style.⁷⁹ If training is given it will ensure that the content being taught is accurate, which can be a concern for those involved in PE⁶⁴ and can make sure those being educated trust their peer's teaching.⁶⁶ Overall although there are many benefits to PE there are some limitations which can make determining outcomes or impact challenging. To deliver intended outcomes it is important that any PE is designed using a robust approach; the use of such methodologies when designing complex interventions is discussed next.

1.3.4 Developing mental health promotion interventions

1.3.4.1 Medical Research Council Framework

Mental health promotion interventions are complex and as such consist of multiple components. Consequently, intervention design is complex and contains many elements. Using a framework to guide the design process is therefore important. The Medical Research Council (MRC) Framework for the development and evaluation of complex interventions offers a systematic approach that also recognises that the process may not always be linear, as indicated by the arrowheads in Figure 1.3 which shows the four main phases of the MRC Framework: development; feasibility; evaluation; and implementation. The MRC Framework emphasises design and piloting of an intervention and the need for theory.⁸⁰

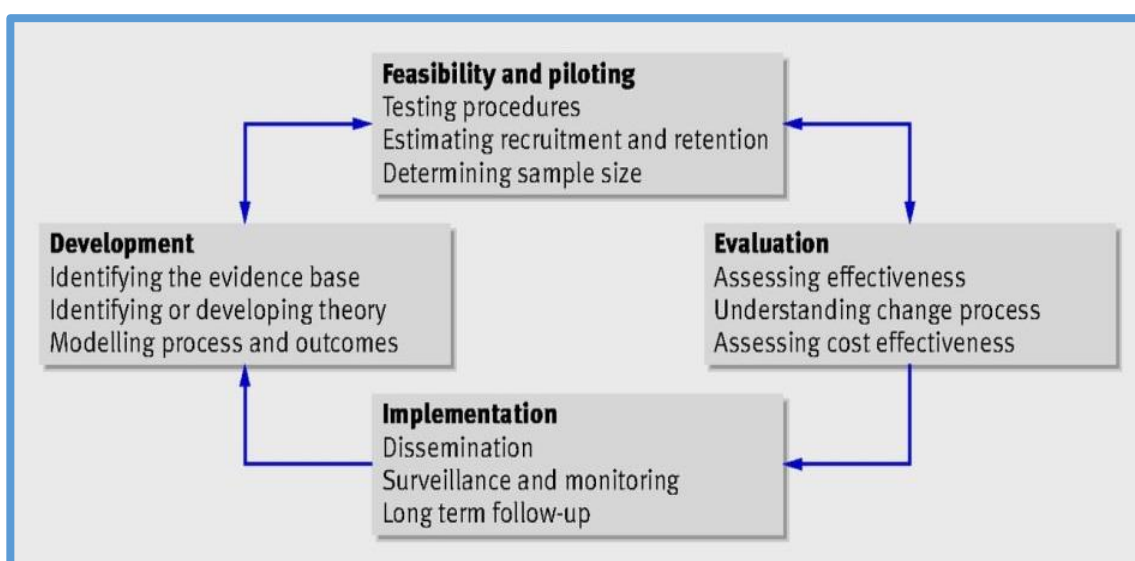


Figure 1.3 MRC Framework for the development and evaluation of complex interventions

The **Development Phase** of the framework consists of three main stages. The first involves identifying existing evidence so that interventions and methods used in previous studies can be used to inform intervention development. The second stage of the Development Phase involves identifying and developing theory that links outcome

measures to the aims and components of the intervention.⁸¹ The final stage of the Development Phase involves modelling or designing a version of the intervention that can then be feasibility tested.⁸⁰ The **Feasibility Phase** is used to establish whether the intervention is suitable to move through to further implementation, is practical and acceptable.⁸² The third phase is the **Evaluation Phase**, where not just effectiveness but also understanding of how change happens within an intervention takes place.⁸⁰ The last phase is the **Implementation Phase**.⁸⁰ Implementation involves dissemination and delivery of the main intervention as well as follow-up.⁸³

1.3.4.2 Logic model

Although the use of a framework allows for a structured approach to be taken to intervention design and evaluation, sometimes further models and theory are needed. This is when logic models may be used. There are two types of logic model: theory of change logic models; and programme logic models. Theory of change logic models are generally less detailed and contain concepts or ideas about what the intervention developers think may occur when an intervention is implemented. Programme logic models, on the other hand, are more detailed and contain operational information such as activities, resources, and outputs.⁸⁴ In this thesis the term 'logic model' refers to a programme logic model.

The purpose of a logic model is to provide a structure and allow for a diagrammatic representation to highlight the problem or needs the intervention is targeting and the strategies planned to enable these changes.⁸⁵ Logic models can be used at the planning stage but also throughout intervention management.⁸⁵ Developing a logic model allows

for the links between programme activities and outcomes to be evaluated and strengthened.⁸⁴

When creating a logic model, there are a number of key elements which must be considered. These are usually resources, activities, outputs, outcomes, and impact. Resources allow the intervention to progress and can include human, financial or organisational resources. Activities are the components that make up an intervention and these are the mechanisms of change that cause the intervention outcomes. Outputs relate to the specific changes produced by each activity and the targets that an intervention is trying to change. Outcomes can be short, intermediate or long term and relate to wider changes produced by the intervention.⁸⁴ A template of how these elements are usually represented is shown in Figure 1.4.



Figure 1.4 Template of elements of a programme logic model⁸⁴

The underlying assumptions of an intervention are not usually shown within the logic model but are nonetheless important. These assumptions link to the theory of change behind an intervention, and provide the theory and context as to how and why the intervention developers believe an intervention is going to have the expected effects and impact.⁸⁴

Logic models have been used previously to inform the design of HP interventions,⁸⁶⁻⁸⁹ including MHP interventions, and allowed for a clear structure and goals to be established.⁸⁸

1.4 Research direction

1.4.1 Rationale for research

This PhD programme of work was completed as it is known that undergraduate pharmacy education currently lacks sufficient experiential learning opportunities in comparison to other healthcare courses; as a consequence, pharmacy students have fewer opportunities to engage with members of the public and develop key skills. The new GPhC Standards for the Initial Education and Training of Pharmacists emphasise the importance of MPharm graduates being able to apply knowledge and skills such as consultation to empower members of the public in relation to their health.

Service-learning is a type of experiential learning, where students learn through experiencing an activity and reflecting upon it. Service-learning has been used widely in undergraduate healthcare programmes and has known benefits such as allowing students to take control of their own learning through reflection, resulting in the development of skills such as self-motivation and collaborative working. Service-learning programmes have been employed in a variety of community settings and utilised to teach about numerous topics, including public health and HP.²⁰⁻²²

School-based MHP interventions are a vital tool to improve the mental health of young people, a population with a high prevalence of mental illness – approximately one

quarter of all young people have an identifiable mental health disorder or illness. It is also known that pharmacy students recognise that they lack mental health knowledge and the ability to apply this knowledge.⁹⁰ Locally, at the University of Manchester, the inclusion of a SL programme would contribute towards the core strategic goal of social responsibility, whilst also realising the underpinning theme of civic engagement. Therefore, the development of a MHP intervention designed to be delivered by MPharm students participating in a SL programme at the UoM is a practical option. This is a novel research area and to EW's knowledge this is the first compulsory SL programme incorporated within an MPharm degree programme in the UK. Moreover, it is also the first example of MPharm students teaching MHP to high school pupils within the local community.

1.4.2 Research aim

The primary aim was to develop a MHP intervention, as part of a SL programme, involving high school pupils and MPharm students. The secondary aim was to establish the impact of participation on both the high school pupils and the MPharm students involved.

1.4.3 Objectives

The objectives were:

- To identify previous school-based mental health prevention interventions and establish the intervention components, theoretical frameworks, evaluation measures and outcomes
- To design a MHP intervention and test for acceptability
- To evaluate the impact of a MHP intervention on high school pupils
- To explore the impact of SL within the MPharm curriculum at the UoM on MPharm students

1.4.4 Overall study design

The MRC Framework for the development and evaluation of complex interventions has been used to guide the research presented in this thesis (see Table 1.1.). Each phase of the framework is broken down into the stages that were completed as part of the programme of work and has been mapped to the relevant chapter in this thesis. For example, as can be seen in Table 1.1 the development phase involved a number of different stages (identifying the evidence base, modelling and identifying appropriate theory) with details related to these stages included in Chapters 2 and 3. The MRC

Framework was chosen for the PhD programme of work as it allows a structured yet flexible intervention to be designed and implemented.⁸⁰ The design was also informed by EW's background as a mental health pharmacist.

The MRC Framework provides guidance for development of complex interventions – that is, interventions that have many components, target groups, and outcomes.⁸⁰ The MHP intervention described in this thesis is a complex intervention as it consists of: a number of interacting components; different behaviours required by both the service-learners (MPharm students) and the high school pupils who are the targets of the intervention; multiple group involvement within the intervention; various potential outcomes for both service-learners (MPharm students) and high school pupils; and a degree of flexibility to allow for the intervention to be adapted to other populations in the future.⁸⁰

Table 1.1 Programme of work mapped to MRC Framework

Phase of MRC Framework	Thesis Chapter	Method used
Development	<i>Identifying evidence base</i>	Chapter 2 Scoping review
	<i>Modelling</i>	Chapter 3 Focus groups with high school pupils
	<i>Identifying appropriate theory</i>	Chapter 2 Scoping review Logic model
Feasibility	<i>Testing procedures</i>	Chapter 4 Chapter 5 Questionnaire with high school pupils Reflective records with MPharm students
	<i>Estimating recruitment/retention</i>	Chapter 4 Chapter 5 Questionnaire with high school pupils Reflective records with MPharm students
	<i>Determining sample size</i>	Chapter 4 Chapter 5 Questionnaire with high school pupils Reflective records with MPharm students
Evaluation	<i>Assessing effectiveness</i>	Chapter 4 Chapter 5 Questionnaire with high school pupils Reflective records and focus groups with MPharm students
Implementation	<i>Dissemination</i>	Chapter 4 Chapter 5 Questionnaire with high school pupils Reflective records and focus groups with MPharm students

Chapter 2. A scoping review of school-based mental health promotion interventions

2.1 Introduction

In the previous chapter the MRC Framework for the development and evaluation of complex interventions was introduced. In this chapter, a scoping review is presented; the scoping review satisfies Stage 1 of the first phase of the MRC Framework, namely, identifying the existing evidence in the Development Phase (highlighted in blue in Figure 2.1). The scoping review aimed to investigate and establish an understanding of potential methods of development, delivery and evaluation for the MHP intervention that is reported in this thesis. Details about theoretical frameworks, targets, components, outcomes and evaluation methods were extracted during the review and used to inform intervention development. Following this, a draft logic model and theory of change was produced; this is presented at the end of the chapter. This review has been published in the International Journal of Health Promotion and Education within a manuscript reporting development of the MHP intervention. ⁹¹

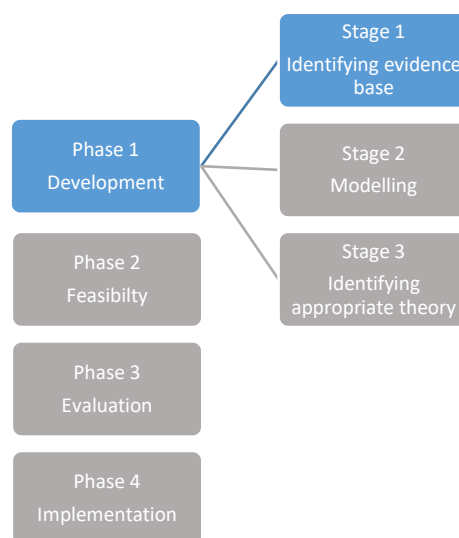


Figure 2.1 MRC Framework: Phase 1, Stage 1

2.2 Aims and objectives

The aim of this study was to use the Arksey and O'Malley Framework⁹² to complete a scoping review of school-based MHP interventions to identify the theoretical frameworks, targets, components, outcomes and evaluation methods within these interventions. The objectives for this review were therefore:

- To identify theoretical frameworks underpinning school-based MHP interventions
- To identify targets of school-based MHP interventions
- To identify components of school-based MHP interventions
- To identify outcomes, measures and evaluation methods utilised in school-based MHP interventions

2.3 Methods

2.3.1 Design

A scoping review of school-based MHP interventions was completed, with data extracted using the Arksey and O'Malley Framework,⁹² with additional guidance from Levac *et al.*^{93,94} also used to clarify the stages within the framework.

The use of scoping reviews has increased in recent years,⁹³ quite possibly because they are suited to a number of applications. For example, they can be used to rapidly map an unknown field of study, to establish whether a systematic review might be undertaken, to summarise research findings and also to identify research gaps.⁹² However, due to the emerging nature, there is inconsistency in the language used to

describe them. Colquhoun *et al.* combined descriptions to reach this comprehensive definition:

*“A form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting and synthesising existing knowledge”.*⁹³

While the method for conducting scoping reviews is still evolving, it is generally recognised that the Arksey and O’Malley Framework⁹² provides a robust approach as it ensures that a scoping review is detailed enough to be replicated and methods at each stage are thorough and clear to ensure methodological rigour.⁹³ Arksey and O’Malley recommend that a scoping review should include a broad range of literature and that the process of identifying literature is iterative, relying on researchers becoming more familiar with the literature throughout the process. There are five stages within the framework, namely: identifying the research question; identifying relevant studies; study selection; charting the data, and collating, summarising and reporting the results. These stages are described further in Section 2.3.2.

Scoping reviews have proved useful and effective in research across many fields, including healthcare and intervention research.^{95, 96} Scoping reviews are flexible and allow the researcher to define parameters at a later stage in the process to increase the scope of literature included. As a consequence the initial research question may be quite broad.⁹⁷ This is in contrast to other types of review such as systematic reviews which require a focused question at the start of the research process, with narrow parameters. Another difference between scoping reviews and systematic reviews is the type of studies included; systematic reviews may be restricted to study designs such as

randomised controlled trials (RCTs) whereas scoping reviews include qualitative and quantitative research, theoretical and narrative reviews as well as grey literature. This in turn means a scoping review can gather and synthesise findings from a much larger range of study designs and sources. A scoping review was chosen for the current study to allow for a large breadth of literature to be captured and examined. As little was known about school-based MHP interventions in terms of components, impact measures and outcomes, a scoping review was the most appropriate way of developing a narrative overview that could be used to guide next steps in the intervention design process.⁹⁸

There are limitations of scoping reviews however. Scoping reviews do not critically appraise the research studies reviewed, and can lead to a large pool of material being included. This can be overwhelming and also raises the question as to whether breadth is more important than depth. In contrast, the lengthy appraisal process involved in undertaking a systematic review may avoid such a large number of studies being included.⁹² Despite these limitations scoping reviews are an effective method of literature review.

2.3.2 Procedure

The five step Arksey and O'Malley Framework⁹² was followed to complete the scoping review. These are described next.

Step 1: Identifying the research question

This step involved clearly defining a broad research question. To do this, once the general question had been decided upon, parameters were set to ensure clarity. As Arksey and O'Malley recommend a wide approach to parameter defining at this step of the process,⁹² the research question was defined as: *What are the characteristics of school-based MHP interventions in current literature?* Parameters were set in relation to the word 'characteristic' which was defined as any element of the intervention that could be categorised, 'school-based' was defined as secondary school (children aged 11-18 years) and 'MHP intervention' was defined as an intervention aiming to impact pupils' mental health in some way.

Step 2: Identifying relevant studies

Scoping reviews aim to gather as many studies as possible to answer the research question, so a comprehensive search strategy is recommended.⁹² At this stage decisions about the language of publication are also made.

Electronic databases

After consultation with members of library staff at the UoM to identify relevant databases and key word choice, eight electronic databases were searched using the strategy shown in Table 2.1 The electronic databases were British Education Index, Australian Education Index, ERIC, International Education Research, Web of Science, Scopus, PsychInfo and Cochrane. The searches were refined to key words in the abstracts only. Only studies published in the English language were included.

Table 2.1 Search strategy

Key words (AND)	High School	Mental health	Promotion
Synonyms (OR)	Secondary school	Well-being	Education
	Senior school	Psychological health	Prevention
	Teenager	Emotional health	Intervention
	Adolescent		
	Young person		

Step 3: Study selection

This step involved eliminating studies that were not relevant to the research question. To do this inclusion and exclusion criteria were applied and duplicates were removed. Scoping reviews allow for criteria to be applied later in the process compared to a systematic review where they are applied from the outset.⁹² The inclusion and exclusion criteria were applied to all studies; first title reviews were completed, then abstract reviews and then full study reviews.

Inclusion criteria

Studies were included if they met the following criteria:

- Primary study where intervention is delivered
- Universal intervention
- High school age children are target audience
- Based in a high school setting
- Face to face intervention
- Targeting mental health in some form
- Evaluation of impact on high school students documented

Exclusion criteria

Studies were excluded from the review if:

- It was a 1:1 intervention

Step 4: Charting the data

Charting the data involved recording information about each study in a uniform and consistent manner to produce a data charting table. This step was completed using the database programme Excel. The information recorded was author, country of origin, study design, theoretical framework, compulsory participation, duration, sample size, intervention targets, intervention components, intervention provider, intervention outcome measures, main findings (including significant results and gender differences) and evaluation. Data captured for each study varied depending on availability; it was not possible to extract all of the information for all studies.

Step 5: Collating, summarising and reporting the results

During the process of collating, summarising and reporting the aim was to present a narrative overview of the data collected.⁹² To do this a data charting table was used, and each characteristic was grouped together and reported on descriptively. Scoping reviews are usually presented in this manner with limited statistical information⁹³ however some summaries are presented as figures, see Figure 2.3, Figure 2.4 and Figure 2.5. Thus the end product of a scoping review is typically a narrative presentation.

2.4 Results

2.4.1 Search results

After searching the eight electronic databases a total of 1106 studies were identified. Duplicates were removed which left 964 studies. Exclusion and inclusion criteria were applied in title screening which resulted in 101 having an abstract reviewed. After the abstract review, a further 63 results were removed. For the 38 remaining results a reference list search was completed, through which an additional nine studies were identified, bringing the total up to 47 results. Full study review was completed of these 47, and again inclusion and exclusion criteria were applied, which produced a final 24 studies (individual studies) that were included in the full analysis. This process is shown in Figure 2.2, with a summary of extracted data provided in Table 2.2.

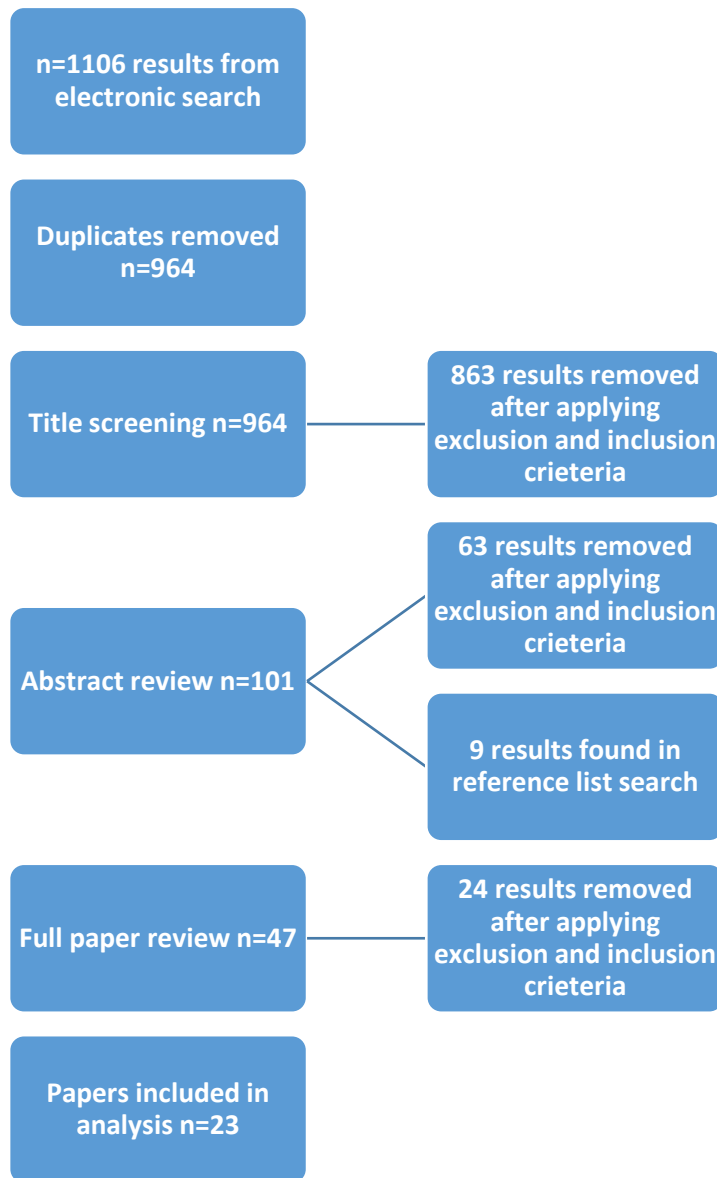


Figure 2.2 Database search process

Table 2.2 Summary of data extracted

Author	Country	Study design	Theoretical framework	Compulsory participation within intervention	Duration	Sample size	Target	Components	Provider	Outcome measure	Main findings	Evaluation
Andrés-Rodríguez, L., et al. (2017)	Spain	Cluster non-randomised control trial	Not stated	Yes	3-9 weeks 9 week-long units to choose from, minimum 3 required	446 pupils	Stigma/stereotypes	Individual exercises Group exercises	School staff Service user	Youth Programme Quality Assessment scale Reported and Intended Behaviour scale	Statistically significant positive impact upon stereotypic attributions and behavioural intentions Female participants found to have significantly better stereotypical attitudes and intended behaviour scores	Pre- and post-test (before, 1-3 month post and 9 months post)
Bentham, C., et al. (2013).	England	Not stated	Not stated	Yes	1 50 minute session	230 pupils.	Mental health knowledge Types of mental health illness/disorder Stigma/stereotypes Help-seeking	Icebreaker Videos Class discussion Role play	University students Mental health professional	Researcher designed questionnaire	Positive impact upon mental health awareness, common mental health issues, stigma, and where to get help. Only descriptive analysis provided. Gender not compared	Pre- and post-test (1 week before and immediately after)
Campos, L., et al. (2018)	Portugal	Control experimental design	Not stated	Yes	2 90 minute sessions	543 pupils	Mental health knowledge	Group discussion Music	University student	The Mental Health Literacy questionnaire	Statistically significant positive impact	Pre- and post-test (1 week pre, 1

					delivered 1 week apart		Types of mental health illness/disor der Stigma/stere otypes Help-seeking Individual well-being	Videos	Mental health professional		on knowledge, stereotypes, first-aid skills, help-seeking and self-help strategies Female participants found to score significantly higher for help- seeking and first aid skills	week post and 6 months post)
Chisholm, K. E., et al. (2016)	England	Pragmatic cluster randomised control trial	Not given	Yes	1 session 6 hours long	657 pupils	Stigma/stere otypes Help-seeking Individual well-being	True/false quiz Videos Role plays Presentation Intergroup contact with service user	Mental health professional Service user	Reported and Intended Behaviour Scale The Mental Health Knowledge Schedule The Strengths and Difficulties Questionnaire The Resilience Scale Help-seeking question (researcher designed) Group interviews Fidelity checklist (researcher designed)	Statistically significant positive impact on mental health knowledge and emotional well- being measures. Positive impact on help-seeking measure Gender not compared	Pre- and post-test (3 weeks pre, 2 weeks post and 6 months post)

Conrad, et al. (2009)	Germany	Quasi-experimental longitudinal control study	Not given	Yes	1 day	210 pupils.	Mental health knowledge Attitude towards MH Individual well-being Service user experience	Discussion Group work Contact with service user	Professional (social worker, journalist, mental health professional) Service user	The Generalised Self-efficacy Scale Help-seeking and social distance questions (researcher designed) Evaluation questionnaire (researcher designed)	No change for self-efficacy Statistically significant positive impact on help-seeking attitude and social distance attitude Male participants found to have higher social distance than females	Pre- and post-test (1 week pre, immediately after and 3 months post)
Dray, J., et al. (2017)	Australia	Cluster randomised control trial	Not given	Yes	16 hour long classes available, minimum 9 required	3115 pupils	Internal and external resilience	No details given	School staff	The Strengths and Difficulties Scale Resilience and Youth Development Module of the California Healthy Kids Survey	No significant impact across all measures Gender not found to impact results	Pre- and post-test (immediately pre- and 3 years post)
Essler, V., et al. (2006)	England	Non-controlled intervention study	Not given	Yes	1 session - length unknown	104 pupils	Types of mental health illness/disorder Individual well-being Attitudes towards mental health	Quiz Drama Games	Theatre company	Researcher designed quiz	Statistically significant positive impact on knowledge and attitudes Gender not compared	Pre- and post-test (immediately pre and 1 month post)
Garcia, C., et al. (2013)	United States	Randomised, control study	Resilience theory	No	16 weekly 3	42 pupils	Individual well-being	Sharing circle Yoga	School staff	Perceived Stress Scale	Positive impact across all	Pre- and post-test

					hour sessions. Plus booster session 3 months post.		Types of mental health illness/disorder	Mediation Skill building sessions		Depression, Anxiety and Stress Scale Scale for coping and connectedness (researcher designed)	measures, not statistically significant Female only participants	(baseline, mid intervention, 3 month post and 9 month post)
Giannakopoulos, G., et al. (2012)	Greece	Quasi-experimental control study	Not given	Yes	3 90 minute sessions each over 3 weeks	161 pupils	Types of mental health illness/disorder Stigma/stereotypes Attitudes towards MH	Presentations Discussion Short film	Mental health professional	Community Attitudes towards Mentally Ill scale Self-report Inventory of fear and Behavioural Intentions toward the mentally ill	Statistically significant positive impact on attitudes and behavioural intentions related to social distance. Gender not compared	Pre- and post-test (1 week pre and 2 months post)
Haraldsson, K. S., et al. (2008)	Sweden	Control group design	Not given	Yes	Weekly lesson over a school year (25-30 hour lessons)	440 pupils	Types of mental health illness/disorder Individual well-being	Mate-to-mate massage Progressive muscle relaxation	Physiotherapist	Researcher designed questionnaire	Well-being was maintained in some areas and decreased in others. Not statistically significant. Female participants had higher sense of well-being for self-reliance, leisure time and satisfaction	Pre- and post-test design (start and end of school year)
Kelly, C. M., et al. (2011)	Australia	Uncontrolled pilot evaluation	Not given	Yes	3 sessions. 75 minutes each.	520 pupils	MHL and knowledge Stigma/stereotypes	Videos Group discussions Relaxation techniques Role play.	Mental Health First Aid instructor	Researcher designed questionnaire	Statistically significant positive impact upon some aspects of knowledge,	Pre- and post-test (pre, immediately post and

							Help-seeking				stigmatising attitudes, intentions and behaviours and help-seeking Gender not compared	3 months post)
Mcallister, M., et al. (2018)	Australia	Quasi-experimental study design	Contemporary learning theory	Yes	1 session weekly for 6 weeks	870 pupils	Individual well-being	Movie clips Songs, storytelling Discussions Group work	Mental health professionals School staff	Generalised self-efficacy scale The Social Emotional Assets and resilience Scale Short Form Adolescents Kidscope	Statistically significant positive impact on self-efficacy No change in resilience or coping skills Gender not compared	Pre- and post-test (baseline, immediately post and 8 weeks post)
Naylor, P. B., et al. (2009)	England	Control group design	Not given	Yes	6 weekly 50 minute lessons.	174 pupils	Types of mental health illness/disorder	Booklets Fact sheets Videos Discussion Role-playing Internet searching.	School staff	Strengths and Difficulties questionnaire Researcher designed mental health questionnaire	Statistically significant impact on conduct problems, knowledge of mental health and stigma, prosocial behaviours. No significant difference for peer problems, emotional symptoms and total difficulties Gender not found to impact results	Pre- and post-test
Ojio, Y., et al. (2015).	Japan	Not given	Not given	Yes	2 50 min sessions	118 pupils	Types of mental health	Presentation Animations	School staff	Researcher designed questionnaire	Statistically significant positive impact	Pre- and post-test (pre,

							illness/disorder MHL and knowledge Help-seeking	Group discussion			on knowledge, recognition of mental health problems, selection of desirable behaviour and intention of helping peers with mental health problems Gender not compared	immediately post and 3 months post)
Perry, Y., et al. (2014)	Australia	Cluster randomised control trial	Theory of planned behaviour	Yes	5 2 hour sessions	380 pupils	Types of mental health illness/disorder MHL and knowledge Attitudes toward MH	PowerPoint presentation Booklet and resources	School staff	Depression Literacy Scale Depression Stigma Scale. The Inventory of Attitudes towards Seeking Mental Health Services Depression Anxiety and Stress Scales Moods and Feelings Questionnaire (adapted) Individual interviews	Statistically significant positive impact on mental health literacy, stigma and stereotypical beliefs No significant impact upon help-seeking, psychological distress or suicidal ideation Gender not compared	Mixed method study design Pre- and post-test(immediately pre and post, 6 months post)
Pinfold, V., et al. (2003)	England	Not given	Not given	Yes	2 1 hour sessions	472 pupils	Individual well-being MHL and knowledge	Video Group exercises Information leaflets	Mental health professionals Service users	Researcher designed questionnaire	Positive impact on language. Statistically significant positive impact	Pre- and post-test (immediately pre and 1week post

							Stigma/stereotypes				on increase in mental health knowledge. Non-significant difference for social distance Female participants more likely to have sympathetic views towards mental health.	and 6 months post)
Pinto-Foltz, M. D., et al. (2011)	United States	Non-blinded cluster randomised trial	Not given	Yes	1 session (length unknown)	156 pupils	Service user experience	Narrative storytelling Discussion Video Presentation	Service users	Researcher designed questionnaire	Intervention found to be highly acceptable Statistically significant positive impact upon knowledge No effect on stigma Gender not compared	Pre- and post-test (immediately pre, 1 week post, 4 weeks post and 8 weeks post)
Ruini, C., et al. (2009)	Italy	Randomised attention-placebo design	Model of psychological well-being	Yes	6 weekly 2 hour sessions	227 pupils	Individual well-being	Role playing Self-observation in a diary Games Group discussions	Clinical psychologists	Ryff's well-being scales Kellner's symptom questionnaire.	Statistically significant positive impact on aspects of psychological well-being Gender not compared	Pre- and post-test (pre and 6 months post)

Sakellari, E., et al. (2014).	Greece	Randomised control trial	None given	Yes	2 45 minute sessions	59 pupils	MHL and knowledge Types of mental health illness/disorder Stigma/stereotypes Help-seeking	Presentation Group discussion	Researcher	Opinion about Mental Illness Scale	Statistically significant positive impact on social discrimination and social care. No effect on social restriction Gender not found to impact results significantly	Pre- and post-test (1 week before and 1 week after)
Shapiro, et al. (2016)	Canada	Non- controlled design	None given	Yes	1 45 minutes session	565 pupils	Stigma/stereotypes Individual well-being	Mindfulness techniques Cognitive Behavioural Therapy Videos Celebrity examples	Psychology graduate students	Perceived Stress Scale Researcher designed questionnaire	Different tools used pre and post so difficult to assess change Female participants reported higher stress levels and higher levels of willingness to try techniques to reduce stress	Pre- and post-test (immediately pre and immediately post)
Skre, I., et al. (2013)	Norway	Cluster control trial	Antonovskys theory of salutogenesis	Yes	3 day one off session	1100 pupils	Types of mental health illness/disorder Stigma/stereotypes Help-seeking	Group experiences and discussion Videos Lectures	School staff	Researcher designed questionnaire	Statistically significant positive impact upon symptom identification of some conditions and prejudiced beliefs. No effect on help-seeking Male participants	Pre- and post-test (immediately pre and 2 months post)

											were more prejudiced in their beliefs and had less knowledge	
Suldo, SM., et al. (2015)	United States	Non-controlled design	Seligman's happiness theory	Yes	10 weeks 12 hour sessions.	15 pupils	Individual well-being	Presentation Handouts and worksheets Discussions Journal entries	Research team School staff	Students' Life Satisfaction Scale Positive and Negative Affect Schedule for Children Multi-dimensional Students' Life Satisfaction Scale	Statistically significant positive impact on positive affect and satisfaction with self No changes in behavioural engagement Gender not compared	Pre- and post-test (immediately pre and post and 3 months post)
Veltro, F., et al. (2015)	Italy	Quasi-experimental design	None given	Yes	24 1 hour weekly sessions	79 pupils	Individual well-being	Handbook	School staff Trained psychologists	Perceived self-efficacy APEN-G/APEP-G questionnaire Strengths and difficulties questionnaire Health and wellness questionnaire	Statistically significant positive impact on self-efficacy and health and well-being Gender not compared	Pre- and post-test
Wong, P. W. C., et al. (2012)	Hong Kong	Quasi-experimental design	None given	Yes	12 weeks weekly lesson - 45-60 minutes	410 pupils	Types of mental health illness/disorder Stigma/stereotypes	Workbook Lectures Games/exercises Discussions	Research team School staff	Depression and anxiety stress scale Rosenberg self-esteem scale Multidimensional Scale of	Statistically significant positive impact on help-seeking attitudes and self-esteem No impact on depressive symptoms,	Pre- and post-test

							Individual well-being			Perceived Social Support	stress and social support	
										The brief COPE	Gender not compared	
										Chinese Version of the Social Problem-Solving Inventory Revised.		
										Attitudes Toward Seeking Professional Psychological Help: A Shortened Form		

2.4.2 Study design

There were five different designs reported by the studies. These included; cluster non-randomised control trials, cluster randomised control trials, quasi-experimental control studies, pre-test and post-test with a control and pre-test and post-test without a control. The most common design was pre-test post-test without a control (n=12), possibly due to the practicality and ethical implications of using control groups in HP intervention studies.

2.4.3 Intervention theoretical frameworks

Eighteen of the studies did not include details of theoretical frameworks that could be identified from the published study. The other six studies referenced resilience theory,⁹⁹ contemporary learning theory,¹⁰⁰ theory of planned behaviour,¹⁰¹ model of psychological well-being,¹⁰² theory of salutogenesis,¹⁰³ and Seligman's happiness theory.¹⁰⁴ Those studies applying a theoretical framework did not always provide details of how a theory had been used in the study. The MRC recommends the use of theory during the design of complex interventions to provide an explanatory model of how an intervention is thought to work.¹⁰⁵ This theory-driven process is important to understand not only if an intervention has an effect but why the effect occurred.¹⁰⁶

As well as lacking detail of how a theoretical framework had informed the design and evaluation of a MHP intervention, it is also notable that each of the theories conceptualises the causal pathways underpinning an intervention design and evaluation differently. Resilience theory focuses on how people overcome obstacles and maintain both their physical and mental health.¹⁰⁷ Within the theory, resilience is conceptualised as the process by which individuals deal with setbacks such that a significant long-term

negative impact upon their lives is prevented. The use of resilience theory in the context of the MHP intervention by Garcia et al emphasised building up protective factors, such as knowledge and support networks, to reduce depressive symptoms and perceived stress.⁹⁹ Contemporary learning theory is based upon active learning and discovery, as well as interacting with peers.¹⁰⁰ This was conceptualised during the MHP intervention by using interactive activities which often involved working as a team. Contemporary learning theory is a contrast to traditional learning theory and aims to prepare young people to thrive in an ever-changing learning and working environment, by building upon personal qualities as well as knowledge and skills.¹⁰⁸ The theory of planned behaviour is grounded in behavioural science and aims to predict and explain health behaviours. It is based upon the model that behaviour is controlled by intentions, which can be influenced by an individual's behavioural attitudes, perceptions of others' views of the behaviour and the extent they feel they could complete the behaviour itself. The model of psychological well-being is rooted in the idea that well-being is multi-faceted. It contains six aspects of positive psychological health: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth.¹⁰⁹ The theory of salutogenesis is a biomedical model of health which focuses upon factors that cause good health as to opposed to those that cause disease.¹¹⁰ It focusses upon general resistance resources (GRRs) which are factors that can enable individuals to understand their health and successfully manage this. These GRRs include money, knowledge, commitment and social support.¹¹¹ Seligman's happiness theory is based around three aspects of happiness: pleasure and gratification, embodiment of strengths and virtues and meaning and purpose.¹¹² It aims to provide a toolkit for individuals to overcome unhappiness and feel happiness in the present by thinking about the past beneficially, gaining hope for the future.¹¹²

2.4.4 Intervention targets

There were seven main targets for interventions: stigma and stereotypes,^{103, 113-122} mental health literacy and knowledge,^{101, 114, 115, 118-120, 123, 124} help-seeking,^{103, 114-116, 118, 120, 123} well-being,^{99, 100, 102, 104, 115, 116, 119, 121, 122, 124-128} types of mental health illness and risk factors/signs and symptoms,^{99, 101, 103, 114, 115, 117, 120, 122, 123, 127-129} attitude towards mental health^{101, 117, 124, 130} and service user experience^{124, 131} as shown in Figure 2.3. Many of the interventions aimed to impact on more than one target although the particular combination of targets of an intervention was specific to each intervention. Links between targets and the theoretical underpinning of the intervention were not easy to identify as there was a lack of explicit information included in the published studies, with authors reporting using a unique intervention design to meet the needs of their study.⁸⁰

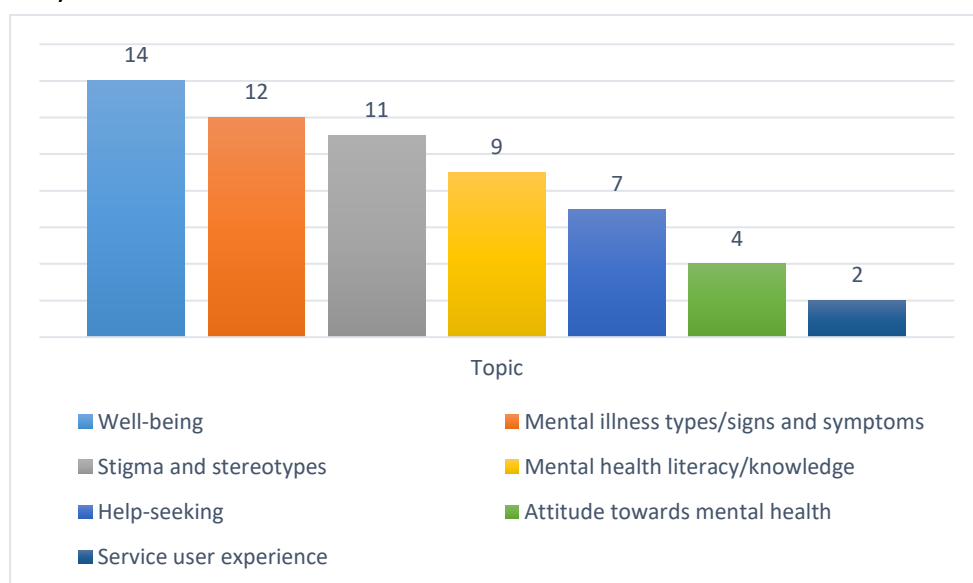


Figure 2.3 Frequency of intervention target

2.4.5 Intervention components

Details of the intervention extracted from the studies included duration and who it was delivered by, as well as the type of components included. Overall, intervention length ranged from a one-off session to weekly sessions spread over a whole school year.

Individual intervention sessions ranged from 45 minutes to three days; however the most common session was one hour long.^{100, 104, 119, 122, 125-127, 129} All but one of the interventions was a compulsory part of the school timetable for pupils involved,¹³² with involvement in the intervention evaluation voluntary in order to comply with research ethics requirements. The study samples ranged from 15 pupils¹⁰⁴ to 3115 pupils.¹²⁶ Delivery was most commonly by trained mental health professionals.^{99, 100, 102, 114-119, 125} and school staff,^{99-101, 103, 113, 122, 123, 125, 126, 129} mental health service users^{116, 119, 124, 131} and university students^{114, 121, 131} as shown in Figure 2.4. Many studies used a combination of providers to deliver the intervention.

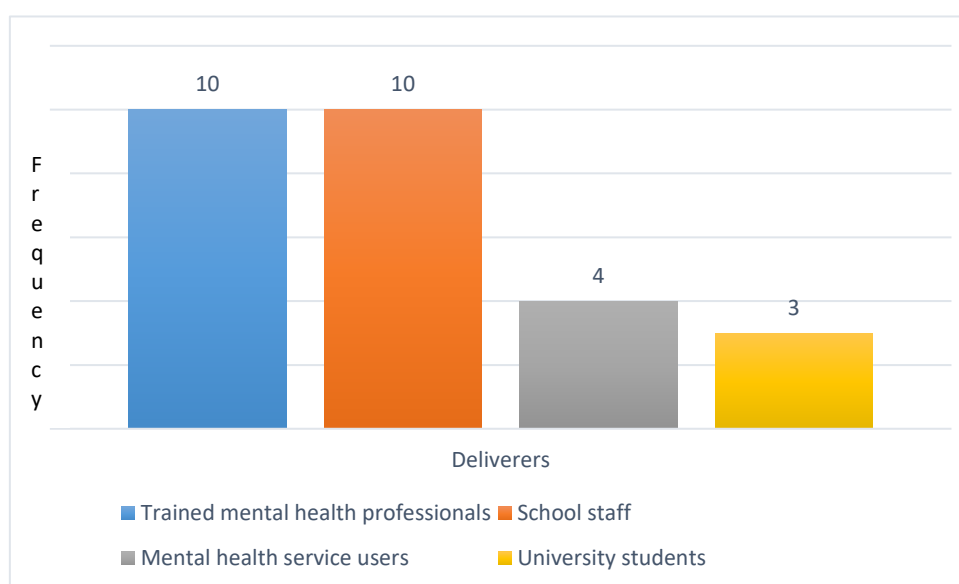


Figure 2.4 Frequency of intervention provider

There were many different components within the 24 studies, and typically a single intervention used multiple components. Fourteen main groups of components were identified from the review, as follows: videos/movie clips, role play-story telling, group discussion, music, quiz, presentation/lecture, service user involvement, games, drama, massage/yoga, journal/diary entries, worksheets/handouts, internet searching and mindfulness/CBT/meditation/relaxation. The most frequently reported component was

group discussion^{99, 100, 102-104, 113-115, 117-120, 122, 123, 129, 131} followed by videos/movie clips,^{100, 103, 114-119, 123, 129, 131, 133} presentation/lecture,^{101, 103, 104, 116, 117, 120, 122, 123, 131} role playing/storytelling,^{100, 102, 114, 116, 118, 129, 131} and worksheets/handouts^{101, 104, 119, 122, 125, 129, 133} as shown in Figure 2.5.

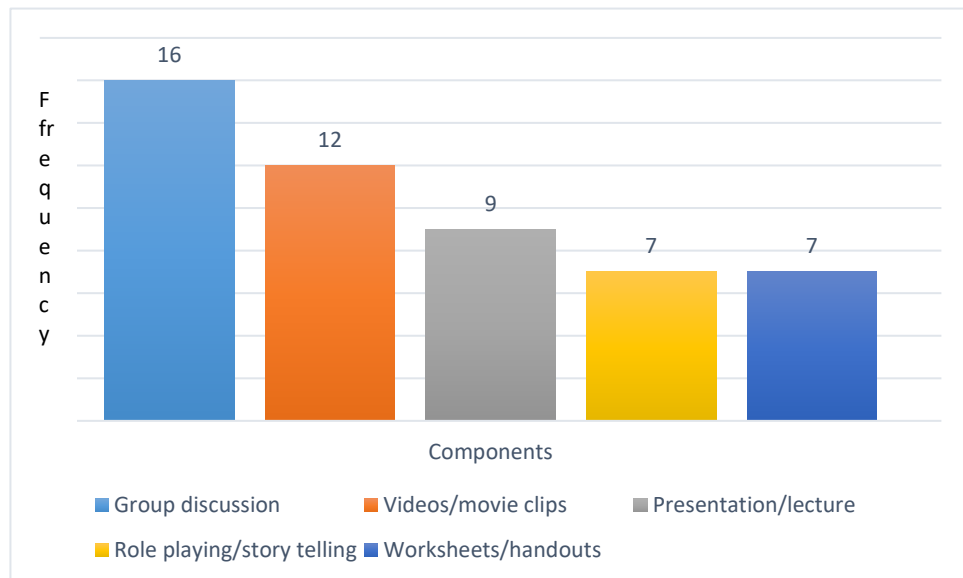


Figure 2.5 Frequency of common components

The remaining components were featured less frequently within the interventions. Table 2.3 presents further information about the components and combinations of components.

Table 2.3 Intervention components

	Videos/movie clips	Role play/story telling	Group discussion	Music	Quiz	Presentation/lecture	Service User Involvement	Games	Drama	Massage/yoga	Journal/diary entry	Worksheets/handouts	Internet searching	Mindfulness/CBT/meditation/relaxation
Andrés-Rodríguez, L., et al.			X											
Bentham, C., et al.	X	X	X											
Campos, L., et al.	X		X	X										
Chisholm, K., et al.	X	X			X	X	X							
Conrad, et al.			X				X							
Dray, J., et al.														
Essler, V., et al.					X			X	X					
Garcia, C., et al.			X							X				X
Giannakopoulos, G., et al.	X		X			X								
Haraldsson, K. S., et al.										X				X
Kelly, C. M., et al.	X	X	X											X
McAllister, M., et al.	X	X	X	X										
Naylor, P. B., et al.	X	X	X									X	X	
Ojio, Y., et al.	X		X			X								
Perry, Y., et al.						X						X		
Pinfold, V., et al.	X		X									X		
Pinto-Foltz, M. D., et al.	X	X	X			X								
Ruini, C., et al.		X	X					X			X			
Sakellari, E., et al.			X			X								
Shapiro, et al.	X											X		X
Skre, I., et al.	X		X			X								
Suldo, S.M, et al.			X			X					X	X		
Veltro, F., et al.												X		
Wong, P. W. C., et al.			X			X		X				X		

2.4.6 Outcomes

Outcome measures

Thirty-five different outcomes measures were identified. Most studies used more than one measure whilst the maximum measures used within a study was six^{116, 122}. Some studies used validated measures whereas others did not. The most commonly used measure was a study specific questionnaire (12 studies)^{103, 113, 114, 119, 123, 124, 127-129, 131} followed by the Strengths and Difficulties Questionnaire which was used by four studies.^{116, 125, 126, 129} The Depression, Anxiety and Stress Scale was used by three studies,^{99, 101, 122} and The Reported and Intended Behaviour Scale^{113, 116} and the Generalised Self-efficacy Scale were used by two studies.^{100, 124}

Reported outcomes

The intervention outcomes extracted for this review relate to impact on high school students. Nineteen different outcomes were reported. The most common outcomes were a positive change in mental health literacy and knowledge,^{101, 103, 114-116, 118, 119, 123, 124, 128, 129, 131} a positive change in stereotypes/stigma^{101, 113, 114, 118, 120, 129} and a positive change in help-seeking.^{114, 116, 118, 123, 124} Four studies each reported positive change in intended behaviour^{113, 117, 123, 129} and well-being,^{102, 116, 125, 127} and five studies reported a positive change in overall attitude to mental health.^{117-120, 128}

Although many studies reported change, in many the change did not reach statistical significance. Moreover, many studies reported multiple outcomes, with some changes statistically significant and some not. Looking across the studies, no clear pattern or consistent set of findings can be determined; rather, each study reported findings that

tended not to be repeated by other studies, in part no doubt due to differences in study design such as how outcomes were measured (see Table 2.2 for more details). For example, while two studies reported no overall change in any outcome measures^{104, 126} some studies reported no impact on stereotypes/stigma,^{104, 131} help-seeking¹⁰¹ and self-efficacy/self-esteem.¹²⁴

In addition to variation in reported change to outcomes investigated, there was also a lack of consistency in terms of how outcomes were linked, causally, to components within an intervention (Section 2.4.5); rather, these again appeared to be specific to an individual study.

Where the gender of participants was compared, there was a tendency for female participants to have better overall outcomes, although once again the reporting of associations between gender and outcomes varied and was specific to an individual study. One study reported a statistically significant difference in stereotypical attitudes and behaviours between female and male participants with female participants scoring higher across all measures, however this was at baseline and the effect was not in response to the intervention.¹¹³ Another study found that female participants were significantly more likely to be able to identify mental health conditions (anxiety disorders, anorexia nervosa) and held lower levels of prejudicial beliefs compared to male participants pre-intervention; however, it was not reported if the changes after the intervention were significant for each group.¹⁰³ A different study found that although there was no significant difference between male and female participants' scores for knowledge, attitude or social distancing, after the intervention female participants were more likely to state that people with MH illness were not difficult to

talk to, not to blame for their MH difficulties and that they wouldn't be embarrassed to be in the same class as someone with MH illness (although this was not statistically significant).¹¹⁹ Another study reported that female participants had significantly higher levels of first aid skills and help-seeking than male participants after intervention delivery¹¹⁵ whilst another found females had significantly lower levels of social distance towards those with mental health conditions post-intervention.¹²⁴ Female participants were found to possess significantly higher levels of stress and used more stress reduction techniques pre-intervention; they also had a significantly better understanding of new stress reduction techniques post-intervention than their male counterparts.¹³⁴ No significant differences were reported in relation to gender by four studies^{120, 126, 127, 129} and the remaining 13 studies did not conduct comparisons on the basis of the gender of participants.^{100-102, 114, 116, 118, 123, 131, 132, 135, 104, 122, 125}

2.4.7 Intervention evaluation

The majority of the studies (23) used quantitative methods to collect pre- and post-intervention data from high school pupils using questionnaires. Two studies used a mixed methods approach,^{101, 116} with additional individual qualitative interviews and group interviews with high school pupils conducted post intervention. In terms of timing for the pre- and post-intervention measures there was considerable variation in the timing of data collection points between the studies. Nine studies^{102, 103, 114, 117, 120, 127, 130, 133} collected data at two time points and ten studies^{100, 101, 104, 113, 115, 116, 118, 119, 123, 124} collected data at three time points, to establish whether there was longer term, sustained impact. Two studies collected data at four time points.^{99, 131} The remaining three studies^{122, 125, 129} reported collecting data pre- and post-intervention without

providing detail relating to timing of data collection. Pre-intervention data collection ranged from immediately before the intervention to three weeks before commencement, with the most common being immediately before (n=13) and one week before (n=5) intervention implementation. Post- intervention data collection ranged from immediately after an intervention to three years; the most common data collection points were immediately after an intervention (n=8) and one week after an intervention (n=4). Further post intervention data collection took place at between three to nine months after the intervention had been delivered; the most common follow-up data collection points were six months (n=4) and three months (n=4).

2.5 Main findings

This scoping review was undertaken of school-based MHP interventions and involved extracting data from 24 studies relating to study design, theoretical framework, compulsory participation, duration, sample size, intervention targets, intervention components, intervention provider, intervention outcome measures, main findings (including significant results and gender differences) and evaluation. Based on the review presented in this chapter, it appears that school-based MHP interventions can be effective at impacting various targets related to mental health including stigma awareness, knowledge and help-seeking, with female participants tending to have overall better outcomes when evaluated. However, while the review identified that many MHP interventions are effective, the review also found variation in terms of intervention design and evaluation.

The most common mental health target of the MHP interventions reviewed was stigma and stereotypes. Most of the interventions focussed on MHP compared to mental health prevention; the former focusses on an outcome of positive mental health whereas the latter is about risk reduction of mental health illness.¹³⁶ This is likely to have occurred as the scoping review included universal interventions suited to MHP, as prevention interventions are often delivered to a targeted, at-risk population.¹³⁶ In line with findings from other reviews,⁶⁰ the scoping review found large variation in components used within interventions. Yet while the review was able to explore the components and approaches to school-based MHP, it was unable to ascertain which outcomes were associated with which components due to lack of reporting on this in the studies reviewed.

Intervention design

Given the lack of clear evidence regarding links between inputs and outcomes for MHP interventions and following on from the scoping review, when designing the intervention used in this PhD programme of work additional resources were used such as EW's professional background as a mental health pharmacist, and consultation with a local high school PSHE education teacher.

Using these additional insights into both mental health and the target population together with the findings of the scoping review, a draft of the intervention was then produced. This draft consisted of an initial mapping out of the proposed components of the MHP intervention linked to intended target(s), and is shown in Figure 2.6. Here, it can be seen that component one (Prezi) is linked to knowledge and attitudes about mental health, help-seeking and social distance. The Prezi presentation is described in

further detail in Section 3.3.3 and is a web-based presentation that was selected to provide both information about MHP to the high school pupils but also to provide a structure to the intervention as a whole; the other components of the intervention would be dispersed and completed throughout the presentation. A Prezi presentation was selected as its use to deliver effective and engaging presentations is increasing and it is known to be more engaging to the audience than other presentations.^{137, 138}

Component two was the Acceptable and Unacceptable Words Activity which links to public stigma and knowledge and attitudes about mental health. Further detail about this component can be found in Section 3.3.3 – it was chosen as the scoping review found that interactive, group activities with hand-outs were commonly used and thought to have an impact during MHP interventions with high school pupils. This activity focussed upon the use of language to describe people who have mental health illnesses or disorders and aimed to increase the awareness of pupils as to how negative language can be harmful.¹³⁹ It is known that the use of stigmatised language amongst young people is high so this component was appropriate for the target audience.¹⁴⁰

Component three was the Celebrity Photograph Matching Activity and this component which again was included to influence public stigma and knowledge and attitudes about mental health. This was another interactive, group activity and hand-outs were used; it is described in further detail in Section 3.3.3. This component aimed to address the fact that mental illness and disorder can be described as a ‘invisible illness’ and consequently it is not always possible to understand what an individual is going through by looking at them. The use of celebrities to highlight this was felt to be appropriate due to celebrity

culture having an influence on young people and that introducing celebrities with mental health illnesses and disorders is thought to reduce stigma.^{141, 142}

The final component, component four, was a video that was intended to target knowledge and attitudes about mental health. A video was chosen as the scoping review found that videos are a commonly used component in effective MHP interventions that were aimed at high school pupils.¹⁴³ Two videos were selected to be acceptability tested, and these are described in further detail in Section 3.3.3. The first video was a three minute, fictional video depicting a teenager in a classroom speaking about living with depression. The second video was seven minutes long and showed real-life stories of people aged 18-25 years with mental health illnesses or conditions.

Table 2.4 shows a summary and further detail of these components, where each proposed component is presented alongside the reasons the component was chosen and the target of the component. Although the scoping review identified a lack of clear causal pathways between the components within an intervention and any reported outcomes, synthesising findings from the evidence as a whole it appeared that some commonly used components were more likely to be associated with positive outcomes.

Details of how components relate to the PSHE education curriculum are also provided in Table 2.4 to ensure the content was relevant to and appropriate for the target population, Y9 pupils. The intervention was designed to be delivered to a whole class group of Y9 pupils, by a small group of MPharm students, and it was intended to last for one hour so that it would fit within the Y9 school timetable. As with the majority of the

studies analysed within the scoping review, this would mean participation in the intervention would be compulsory for the Y9 pupils. The implications of this were considered, such as how it might affect their attitude to the intervention and towards completing the data collection tools. However, it was decided that as participation in the data collection and analysis was voluntary that this compulsory format was appropriate for the PhD programme of work study design.

A repeated measures design was selected to collect data at three time points (at baseline, immediately pre-intervention (T1), one week post-intervention (T2) and three months post-intervention (T3). These time points were selected on the basis of the scoping review. A pre-intervention time point was used by a large majority of the studies and this was decided to be appropriate in the MHP intervention study. The second data collection point was decided as although it was not the most common time point found in the scoping review, which was immediately post-intervention, one week post-intervention was selected on the basis that it is more likely to reflect impact than memory.¹⁴⁴ The scoping review found that for studies which collected a third round of data, the most common timeframe was three or six months post-intervention delivery. A three month time point was thought to be appropriate for this study as it would allow for longer term impact to be established, and is in line with other implementation studies.¹⁴⁵

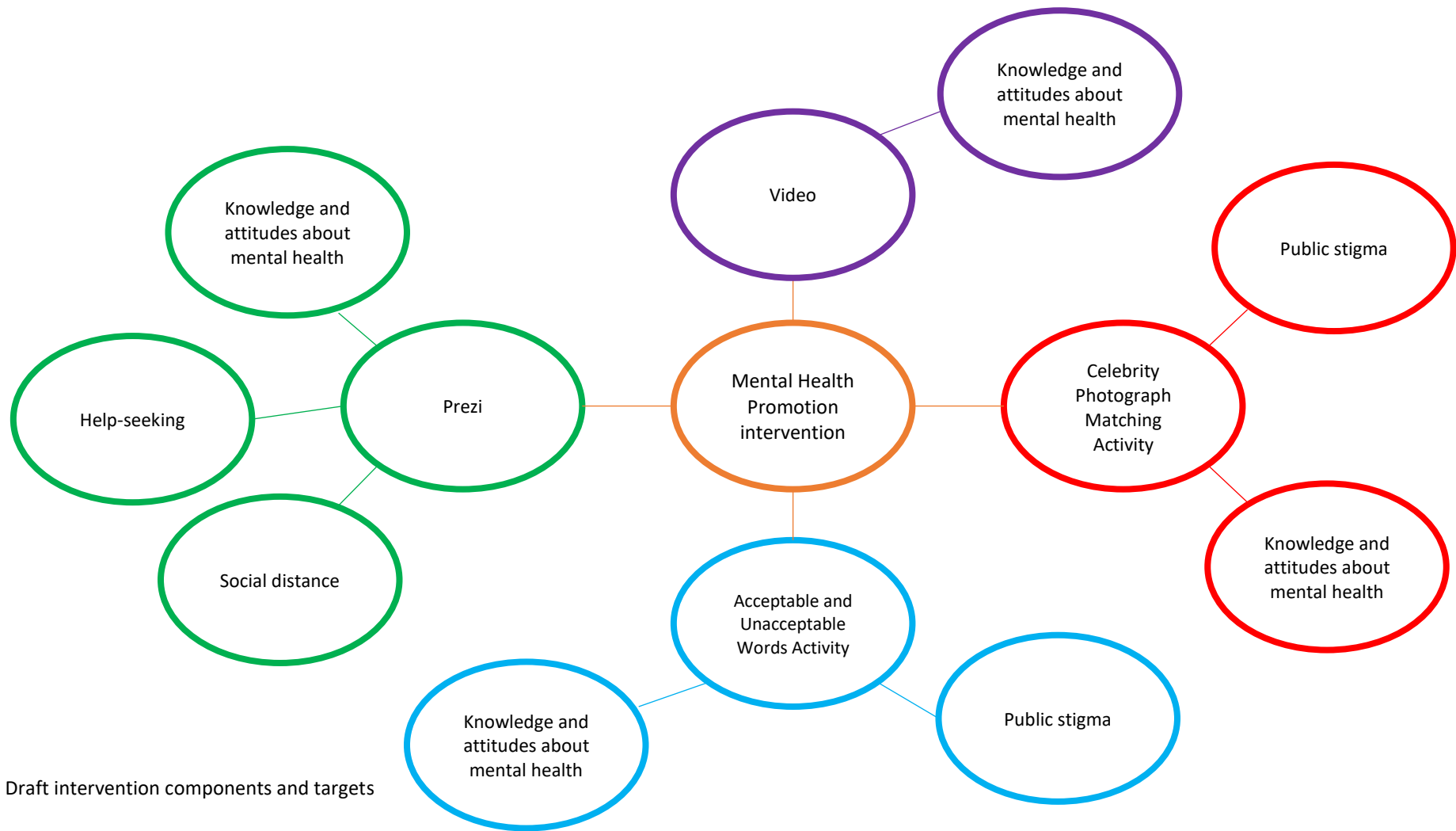


Figure 2.6 Draft intervention components and targets

Table 2.5 Content mapping proposed components

Component	Content	Reasons for component choice	Link to PSHE education curriculum	Target being addressed
Prezi presentation	<p>Contains slides with information about mental health illness and disorders, stigma, good mental health and how to improve mental health and signposting</p> <p>Presentation was blue in colour</p>	<p>Increasingly used to deliver interactive and individual presentations ¹³⁷</p> <p>Found to be more engaging and effective than standard presentations ¹³⁸</p>	<p>Core theme 1 Health and wellbeing:</p> <ul style="list-style-type: none"> - the characteristics of mental and emotional health and strategies for managing these - a range of healthy coping strategies and ways to promote wellbeing and boost mood - the causes and triggers for unhealthy coping strategies, such as self-harm and eating disorders - how to recognise when they or others need help with their mental health and wellbeing; sources of help and support and strategies for accessing what they need 	<p>Knowledge and attitudes about mental health</p> <p>Help-seeking</p> <p>Social distance</p>
Acceptable and Unacceptable Words Activity	<p>Small group activity</p> <p>Group asked to write as many acceptable words as they can on one side and unacceptable words on the other to describe mental health/someone with mental health illness</p> <p>Closing group discussion about the effect of stigmatised behaviour and attitude towards mental health</p>	<p>Stigma and stigmatised language known to have a negative impact upon help-seeking</p> <p>Use of stigmatised and negative language surrounding mental health known to be high amongst young people ¹⁴⁰</p>	<p>Core theme 1 Health and wellbeing:</p> <ul style="list-style-type: none"> - the link between language and mental health stigma 	<p>Public stigma</p> <p>Knowledge and attitudes about mental health</p>
Celebrity Photograph Matching Activity	<p>Group activity</p> <p>Three sides of A4 paper with photos celebrities and their mental health illness on and asked to match up</p> <p>Reflection at end of activity about how mental health is invisible, types of mental health illness and what mental health is expected to look like</p>	<p>Celebrities known to have an influence on knowledge and attitudes to health behaviours ¹⁴¹</p> <p>Celebrities disclosure of their mental health problems can reduce stigma ¹⁴²</p>	<p>Core theme 1 Health and wellbeing:</p> <ul style="list-style-type: none"> - the impact that media can have on how people think about themselves and express themselves, including regarding mental health 	<p>Public stigma</p> <p>Knowledge and attitudes about mental health</p>
Video One and Two	<p>Video One: The Stand Up Kid. A three minute video that shows a teenage boy standing up in class and describing what it is like to live with depression and what it feels like to be stigmatised for it. Information about the incidence of mental health illness in this age group provided too.</p> <p>Video Two: Mental health: In our own words. A seven minute video produced by Mind of real people aged 18-25 talk about what it's like to live with a mental health problem, and what helps them cope.</p>	<p>Videos are known to be a useful component of interventions ¹⁴³</p>		<p>Knowledge and attitudes about mental health</p>

The next step in the Development Phase of the MRC Framework involves the design of a logic model based on the evidence-base identified by the scoping review. Logic models make explicit any hypothesised links between component target and outcomes, thus addressing the limitations of many of the studies identified through the scoping review. A draft logic model for the intervention is presented below in Figure 2.7 that shows the relationships between intervention components, evaluation measures and intended outcomes, as well as inputs and outputs of the intervention.¹⁴⁶ The theories used within the MHP promotion intervention were service learning underpinned by experiential learning theory and peer education.^{4, 18} The use of theory aimed to make explicit the causal pathway implied within the logic model. The use of theory during the initial phase of intervention development is thought to increase potential effectiveness, as well as ensuring the intervention has an impact in a real-world setting.¹⁰⁶ The rationale for the choice of theories was based on the underpinning pedagogies of the intervention, and although they had not been used by studies included in the scoping review, they were thought to be the most appropriate for the MHP intervention study design. Experiential learning was selected mainly in relation to those delivering the intervention (the MPharm students) and targets were about developing professional knowledge and skills.¹³ Peer education was selected for those taking part in the intervention (the Y9 pupils) on the basis that learning about health promotion topics can often be better received from those of a similar social status than traditional authority figures.¹⁴⁷ For further details of these theories see Chapter 1.

Although considered, none of the theories identified in the scoping review were used in the MHP intervention as they were not felt to meet the aim of the MHP intervention which was based in education. Furthermore, the theories identified within the scoping

review were not sufficiently described within the studies; the theories were only described to frame the studies and no detail was given as to their use within the study design. This lack of detail into the use of the theory led to the decision to apply experiential learning theory during the MHP intervention study instead. Resilience theory was not used in the PhD programme of work as the MHP intervention did not aim to target resilience. Although contemporary learning theory could have been mapped to the MHP intervention it was felt it did not combine the learning needs of both the MPharm students and the Y9 pupils as well as the service-learning approach (service-learning is an aspect of ELT). The theory of planned behaviour could have been a useful theory for the MHP intervention however again the structure of the service-learning approach was deemed more suitable to apply when gathering data from the two sets of participants. The model of psychological well-being was not used in the PhD programme of work as the content of the intervention did not focus upon well-being, nor these six aspects of well-being. The theory of salutogenesis was not deemed appropriate as data in relation to participants' own mental health and diagnosis was not to be collected during the PhD programme of work. Seligman's happiness theory was not used during the PhD programme of work as no data was to be collected surrounding participants happiness, nor these three aspects of happiness.

The intended impact of the MHP intervention was to increase mental health awareness of high school pupils by targeting knowledge, attitudes and stigma, as this population is at risk of developing mental health disorders or illness. When looking at the logic model, the resources are what was needed to deliver the intervention including staffing, financial support and development undertakings. The outputs for the intervention include establishing relationships with a high school and developing the components of

the intervention themselves. The components chosen were a presentation, interactive activities with handouts and a video. These components were chosen as these had been used successfully in previous MHP interventions, as identified by the scoping review. The outcomes of the MHP intervention were split into short, medium and long term; however, only the short-term impacts were evaluated for this PhD programme of work. The outcomes would be evaluated cross-sectionally and longitudinally, and comparisons between genders would be made to identify whether some groups were more likely to experience a benefit from taking part than others. The decision to include gender as a variable in the analysis follows the results in Section 2.4.6 where gender differences were seen for some of the studies.^{103, 113, 115, 119, 124, 133} These differences varied from female participants having higher baseline scores to showing a significant difference in scores between genders post-intervention; for all studies in the scoping review which reported gender differences, it was noticeable that female participants were more likely to have changed than male participants. Although these differences were sometimes only significant at baseline and could not always be attributed to the MHP interventions themselves, the fact that differences were seen suggested this to be an area for exploration.

2.6 Next steps

Following completion of the scoping review, the second stage of the Development Phase of the MRC Framework is modelling or design, whereby testing of the intervention occurs before a feasibility study can take place. Therefore, Chapter 3 presents findings of acceptability testing of the intervention.

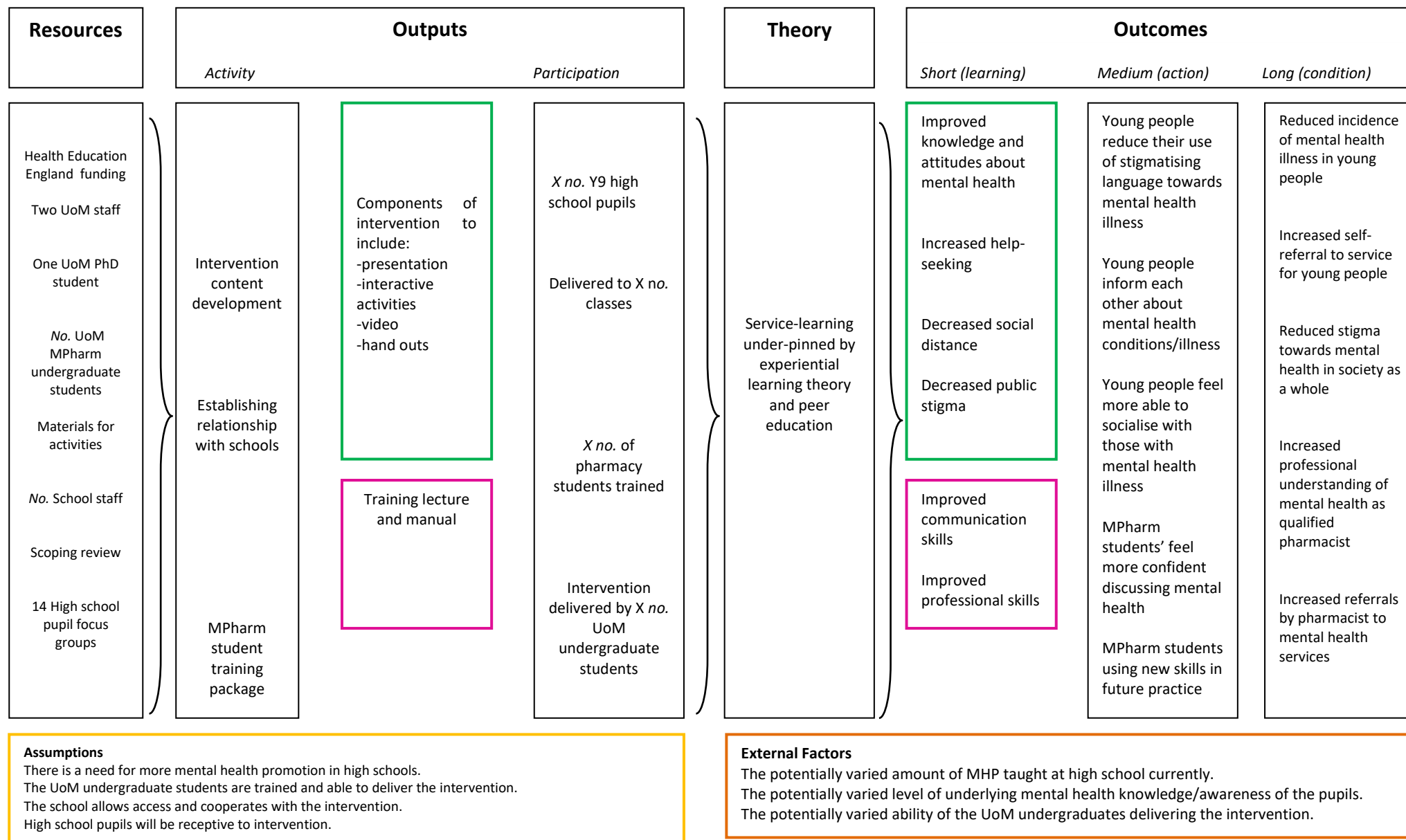


Figure 2.7 Draft logic model

Chapter 3. The development of a mental health promotion intervention

3.1 Introduction

Chapter 2 presented a scoping review undertaken to inform the development of a school-based, MHP intervention to target mental health and a logic model supporting the design of the MHP intervention itself. This chapter reports the results of the acceptability testing of this MHP intervention, as well as changes made following testing. A further refined logic model, building on the one presented at the end of Chapter 2, is also presented at the end of the chapter. In terms of the MRC Framework this chapter addresses Stage 2, modelling, of Phase 1, Development (highlighted in blue in Figure 3.1).

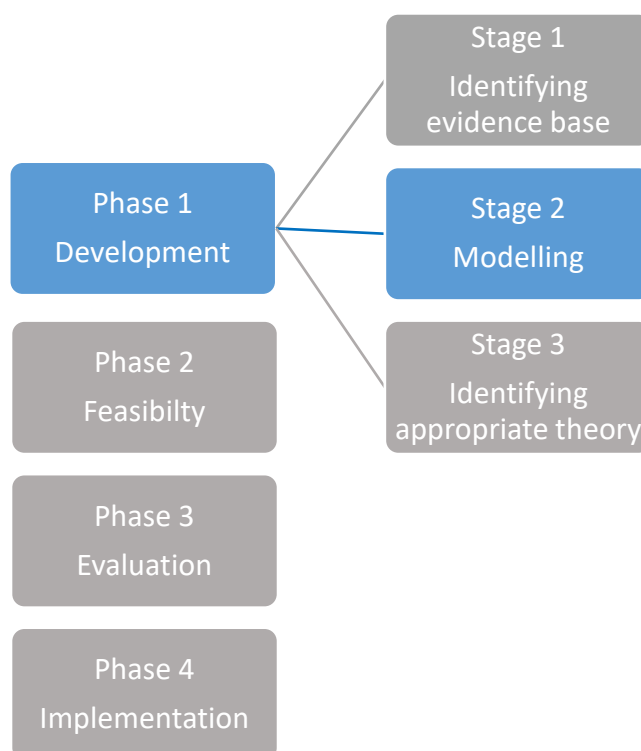


Figure 3.1 MRC Framework: Phase 1, Stage 2

3.2 Aims and objectives

The aim of the study presented in Chapter 3 was to explore the acceptability of the MHP intervention with a sample of its target population (high school students). The objectives were:

- To ascertain high school students' views on the components of the MHP intervention
- To identify any changes or improvements that could be made to the proposed MHP intervention

3.3 Methods

As the MRC Framework recommends that interventions are acceptability tested before implementation, in this chapter primary data collection using focus groups with stakeholders was undertaken.¹⁴⁸ This was completed as part of the modelling stage of the Development Phase of the MRC Framework; during the Modelling Stage the intervention is designed and tested in order to establish if refinements are necessary.¹⁰⁵

Focus groups are a useful research method for gathering information about individuals' views and opinions in a group environment; they are also useful for feasibility testing ideas or projects.¹⁴⁹ A group environment offers practical advantages as they are resource efficient in comparison to individual interviews. They also differ from group interviews which usually offer a more structured didactic interaction between facilitator and individuals whereas focus groups involve more discussion between participants.¹⁵⁰ Focus groups allow for unexpected data to be collected as the questions asked are broad. They have been used successfully in HP research and can be of varied length, but

usually last between 30-90 minutes.¹⁵¹ The length is often influenced by when data saturation is reached within the focus group and by participant fatigue. Data saturation means that no additional data is being collected and the same themes are being repeated.¹⁵² It is up to the research team to decide when this has occurred. Data saturation is also a factor in deciding the number of focus groups needed to answer a research question. While there is no right or wrong number, it is common for three or four focus groups to be sufficient if a sample is relatively homogenous.¹⁴⁹

Literature is inconclusive regarding the optimum number of participants for a focus group (although typically 6-8 participants is advised). Although a larger group of 12 participants can be seen as advantageous as this allows for a wide range of views to be collected, the larger the group of participants the less chance for participation some group members might have.¹⁵¹ For focus groups involving young people a smaller group size is usually recommended to encourage participation.¹⁵³ Due to this lack of consensus it is left to researchers to decide the length and size of the focus groups most appropriate to answer the specific research questions.^{151, 154}

Focus groups allow for in-depth insights to be gained about a topic due to their conversational nature.¹⁵⁵ For this study the age of the participants was a factor and as focus groups are known to encourage participants to engage and share their views,¹⁵⁶ it was hoped that the high school pupils would feel less intimidated in a group discussion than if data were collected individually using one-to-one interviews. Moreover, recruiting individuals of a similar age, with commonalities such as the school they are attending, brings more depth and power to the focus group discussion.¹⁵⁷ Although mental health can be seen as a sensitive topic, for this study the discussion was not

about individual experiences; rather, participants were asked to reflect on the acceptability of various possible components of a MHP intervention in support of finalising the intervention design.

While focus groups are useful, there are limitations that must also be considered. Sampling, for example, becomes difficult in focus group research, and the generalisability of focus group results may therefore be affected.¹⁵⁸ However, as with all qualitative study designs, the aim of the method is not to produce findings that are generalisable but to collect data relevant to addressing a specific research question. Qualitative research questions differ from quantitative research questions as they look to describe rather than quantify. Focus group participants are often self-selected, which may lead to the participants being those who would have spoken up anyway, so a lack of new and unheard views may occur. This selection bias is often unavoidable but must be acknowledged. Sampling bias can be reduced by random sampling however non-probability sampling such as convenience sampling is often used in focus group research as the intention is to sample participants on the basis of characteristics that are relevant to the research questions and not to make generalisations from a sample to a wider population.^{156,159} Convenience sampling is often used in developmental studies and is common when using students as volunteers.¹⁶⁰

As well as sampling, moderation styles can also influence the process of data collection during focus groups, as it is often the structure provided by the moderator that influences the direction of the focus group. A moderator is there to facilitate the group, but not control discussion;¹⁶¹ however facilitation style can vary between moderators. This can bring into question the assumption that focus groups simulate natural

conversations, a justification used in support of this method. However, Morgan *et al.* reflect that this is not just the case for focus groups, individual interviews and survey research can all be influenced by the moderator and therefore this should be acknowledged but is not necessarily viewed as a threat to the validity of the data generated.¹⁵⁷

Alternatives to focus groups were considered when designing the approach to acceptability testing, such as individual interviews. However it was thought more expansive data would be collected through focus groups due to the opportunity for discussion and interaction between participants, allowing group discussion to generate data and potentially putting participants more at ease within the research situation.¹⁴⁹

A group interview method was also considered whereby a more structured interview schedule and questions would be designed, however it was decided that a back and forth question style interview would not get the most out of the young people as they might be reluctant to answer direct questions.¹⁶²

Focus groups have previously been used to test the acceptability of healthcare and HP interventions.¹⁶³⁻¹⁶⁵ However *how* acceptability in the context of intervention testing is determined is not always clear. Acceptability can be tested in many ways – but because the MHP intervention presented in this thesis was designed to be delivered using group work it was decided that the acceptability testing should simulate what would happen during the intervention, including how the components of the intervention would be received during intervention delivery. As a consequence, focus groups were considered to provide as close a simulation as possible to the intervention as it would be delivered, when used for testing acceptability.

There are different ways of testing acceptability. Prospective acceptability is when the acceptability of an intervention is tested prior to the intervention roll out. Concurrent acceptability is when the acceptability is tested at the same time as the intervention is delivered, and retrospective testing is when acceptability testing is completed after the intervention. Prospective was decided upon for this study so that changes and improvements could be made based upon the views of the high school participants before feasibility testing of the intervention took place.¹⁶⁶

While the MRC framework recommends that acceptability is tested, it offers no advice as to how to establish this.¹⁶⁶ Turning to the literature to glean insights suggests that there are many different definitions of the construct of acceptability, which means that what is being investigated during acceptability testing is somewhat contested.¹⁶⁶ In an effort to address this, Sekhon *et al.* developed a framework for acceptability, that recognised that acceptability is a “a multifaceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experiential cognitive and emotional responses to the intervention”.¹⁶⁶ Within Sekhon’s framework there are seven constructs of acceptability. These are: **Affective attitude which is** how an individual feels about the intervention; **Perceived effectiveness which is** the extent to which the intervention is perceived as likely to achieve its purpose; **Burden** which is the perceived amount of effort that is required to participate in the intervention; **Ethicality** which is the extent to which the intervention is a good fit with an individual’s value systems; **Intervention coherence** which is the extent to which the participants understand the intervention and how it works; **Opportunity costs** which is the extent to which benefits, profits or values must be given up to engage in the intervention; and **Self-efficacy** which is the

participant's confidence that they can perform the behaviour(s) required to participate in the intervention.¹⁶⁶

The two constructs which were deemed to be most appropriate to be applied to this study were affective attitude and perceived effectiveness. From this point onwards, whenever acceptability testing is referred to, acceptability is defined by these two constructs. These constructs were selected as it was important to gauge the attitude of the high school pupils towards the intervention as they were the target population. It was also important that the intervention was effective at achieving its purpose, and hence obtaining an understanding of the extent to which this was perceived to happen was crucial. The framework had been similarly adapted when applied by previous studies, where only relevant constructs were investigated rather than all seven.^{167, 168}

One study aiming to assess the acceptability of a behaviour change intervention for obese cancer survivors used semi-structured interviews and a quantitative survey to assess five of the seven constructs (affective attitude, perceived effectiveness, self-efficacy, intervention coherence and burden); however, the rationale for selecting a limited number of constructs was not reported.¹⁶⁸ Another study assessed the acceptability of a Hepatitis C prevention programme in prisons using four of the constructs (ethicality, affective attitude, opportunity costs and perceived effectiveness) on the basis that the study participants would not be delivering or revising the intervention so could not test acceptability of these aspects of the intervention.¹⁶⁷

In the study reported in this PhD programme of work, five constructs were not selected for acceptability testing. Firstly burden was decided against as it was deemed that the 1-hour session would not be too much effort for any of the Y9 participants as it was delivered during a normal school lesson. Examples described by Sekhon of burden

included travel requirements, time management, booking requirements or the prospect of changing services, aspects that were not relevant to the MHP intervention.¹⁶⁹ The construct of ethicality was not investigated as the intervention was designed to be universal (delivered to all Y9 participants) and therefore insight into individual ethicality was not relevant. Intervention coherence was not explored as the purpose of the focus groups was to assess the individual components themselves and to get participants' views and opinions on these, rather than assessing their understanding of the purpose and workings of the intervention as whole. Sekhon describes the construct of intervention coherence was only in regards to practical elements of an intervention, such as patient-initiated booking systems to participant in the intervention. As such, this construct was less relevant for the MHP intervention. Opportunity costs was not included as this was not relevant to the Y9 participants as it was delivered in a normal school lesson so would not involve them having to give up any benefits or profits to be involved. Finally, the self-efficacy construct was not explored in relation to acceptability as the only behaviours required by participants were completing the components of the MHP intervention. It was felt that it would be unnecessary to further investigate this construct as the participants would show this by completing the components throughout the focus groups. As the MHP intervention was to be delivered during a lesson at school where the participants would already be this was felt unnecessary to explore further.

Acceptability, in terms of both how the participants felt about a component and whether a component was achieving its purpose, of each of the four components included in the intervention design (Prezi presentation, the Unacceptable and Acceptable Words Activity, the Celebrity Photograph Matching Activity and Video One

and Two as described in Section 2.5) was established through discussion with participants. These four components were designed to be incorporated in the intervention in the following sequence: the first component was a Prezi presentation which aimed to increase knowledge of mental health, change attitudes about mental health, encourage help-seeking and decrease social distance in relation to mental health; the second component was an activity called the Unacceptable and Acceptable Words Activity, which aimed to increase knowledge of mental health, change attitudes about mental health and impact stigmatising views on mental health, referred to as public stigma. Public stigma relates to how the general population responds to people with mental illness and differs from self-stigma which relates to why people with mental illness may feel badly about themselves.¹⁷⁰ The third component was an activity called the Celebrity Photograph Matching Activity which aimed to further target public stigma and knowledge and attitudes about mental health, whilst introducing the concept of mental health as an invisible illness. The final component was two videos which aimed to target mental health knowledge and attitudes about mental health, with participants being asked to consider which one of the two videos was more acceptable for inclusion in the intervention.

3.3.1 Recruitment and setting

Firstly, a suitable high school needed to be identified and permission to complete the study provided. The lead for PSHE education at a mixed-sex high school located in an urban area within the North West of England who had previously worked with the research team was initially approached. A meeting was arranged where the aim of the study and what involvement would entail was explained. It was important to ensure the school understood the requirements at the start of the study to try to optimise the

chances of the study's success. The PSHE education lead at the selected school had an interest in mental health and saw it as an important aspect of the curriculum. They agreed to the acceptability testing being held at the school in September 2018. This access agreement was confirmed in writing via email.

Eligible participants were identified, approached and invited to take part by a gatekeeper, the lead for PSHE education, who advertised the study to each class of Y9 pupils following a script provided by EW (Appendix 1). Year 9 students are aged 13-14 years old and are in their third year of high school in the English school system.

Two information packs were distributed by the PSHE education lead to each Y9 pupil on behalf of the EW. The first pack was addressed to their parent or carer and contained a cover letter (Appendix 2), participant information sheet (PIS) (Appendix 3) and opt-out consent form (Appendix 4) as well as a stamped envelope addressed to the principal investigator, EW. This information pack was also sent to parents or carers via email (Appendix 5) – this was the second method of providing information about the study and the opportunity to opt out. Parents or carers were requested to complete and return the opt-out consent form within two weeks to EW if they did not want their child to participate in the study.

A second pack was addressed to the Y9 pupil themselves and contained a PIS (Appendix 6) and an assent form. The language was amended within these documents to reflect the age of the participants. The Y9 pupils were asked to complete and return an assent form if they wanted to take part in the study (Appendix 7). The assent forms were

collected by the PSHE teacher and stored in a sealed envelope at the school before being collected by EW.

3.3.2 Procedure

To be eligible to take part, a Y9 pupil had to have both:

- A returned assent form
- No opt-out consent (opt-out consent form not returned by parent/carer).

Convenience sampling was used for this study, whereby all students across the year group were approached and invited to take part. Recruitment continued until the required sample size to complete the intended two focus groups had been obtained.¹⁵⁶ Once reached, each participant was assigned a number between one and 14. Subsequently, numbers were selected at random to allocate seven participants to each of two focus groups conducted to test intervention acceptability. Random allocation to the focus groups ensured that participants were not assigned to a group on the basis of academic performance or friendship group.¹⁵⁶ However it must be acknowledged that this may have inadvertently reduced participation by less confident participants if they had been split up from their usual acquaintances.¹⁵¹ Participants were not offered an incentive for involvement in the focus groups.

3.3.3 Data collection

Each focus group was facilitated by a moderator and a semi-structured topic guide, or questioning route, was developed and followed to ensure integrity between the groups. The topic guides were developed by EW, following consultation with a senior researcher at UoM with extensive experience of qualitative research and focus group topic guide

development. The topic guide was developed largely around and mapped to the proposed components of the MHP intervention. Each section of the topic guide was selected to aid data collection and to improve participant experience and engagement. The topic guide (Appendix 8) was split into five sections: a welcome including ground rules for the session; an opening question to encourage interaction and put participants at ease; key questions about each component of the proposed intervention, lasting the majority of the session; ending questions to ensure the participants had the chance to give their views and opinions and to close the discussion;¹⁴⁹ and a conclusion to debrief and thank the participants. During the main section of the focus group participants completed the activities that were intended to be included in the intervention; this was purposefully hands on and interactive to maximise engagement and simulate how the intervention would be delivered in future. Prompts were used to encourage participants to vocalise their thought processes throughout the activities to ensure this would be captured as the focus groups were being audio recorded. The questions asked were open ended to allow for expansive answers from participants. Further details of the components are presented next; Chapter 2 (Table 2.4) presented the content mapping for each of the components proposed for the intervention. The topic guide was not piloted before the study; this was not felt to be necessary as the focus groups were not designed to collect expansive data set via in-depth discussion, but were being used to test the acceptability of components of the intervention with key stakeholders (Y9 pupils) before the MHP intervention was implemented. Moreover, while it is usually recommended that focus group topic guides are piloted with a sample who are similar to those taking part in the focus group itself, it is acknowledged that this is not always practically feasible.¹⁷¹ In these situations it is recommended that the topic guide is discussed with colleagues with relevant research experience to establish

appropriateness;¹⁷¹ in this case the topic guide was discussed with the wider research team.

Component one – Prezi presentation

Once the facilitator had read out the introduction and ground rules for the focus group participants, an opening question (What is an interesting fact about yourself?) was asked to encourage participation and to provide an opportunity for each of the participants to speak. This also had the dual purpose of enabling easier recognition of participant voices during the transcription process. The facilitator then moved the discussion onto the key questions about the components of the intervention; this discussion took up most of the time of the focus group, around 45 minutes. The first ten minutes of this was spent showing the participants the Prezi presentation and then discussing it. Prezi was selected as an alternative to PowerPoint as it was thought to be a more interactive mode of presentation that is particularly engaging for audiences.¹³⁸ Aiming to increase knowledge about mental health, help-seeking and social distance, the Prezi presentation contained 19 slides, with text only and no animations or pictures. Each slide was blue with basic lettering and the slide was a circle in shape. The presentation was shown to the participants with each slide being clicked through in turn; participants were asked not to comment on the content of the Prezi but on the design of the presentation. This limited how the acceptability was tested for this component as participants were restricted to commenting on how they felt about this component of the intervention (affective attitude) and not the extent to which the component was likely to achieve its purpose (perceived effectiveness).

Component two – The Unacceptable and Acceptable Words Activity

The aim of this component was to illustrate to participants whether they were more likely to know negative words to describe mental health than positive words, and to then link this to how mental health is described verbally. The activity involved participants working in two sub-groups, with one sub-group asked to write down as many unacceptable words to describe mental health illness as they could think of and the other group asked to write down all the acceptable words they could think of. They were given pens and an A3 piece of paper and no further instructions.

Component three – The Celebrity Photograph Matching Activity

Component three aimed to target public stigma and attitudes towards mental health, whilst presenting the concept of mental health as an invisible illness. It was called the Celebrity Photograph Matching Activity; completing the activity involved participants matching photographs of celebrities (Appendix 9) to different mental health illnesses. The activity was printed on three single-sided sheets of A4 paper, with the first sheet containing six photographs of female celebrities, the second sheet six photographs of male celebrities and on the third sheet was a list of the names of all 12 celebrities alongside a grid of 12 mental health illnesses (some illnesses were repeated within the grid). Focus group participants were first asked to discuss whether they thought it looked like the celebrities had an illness. In answer to this the majority of participants said, “No”. The facilitator then informed the participants that all of the celebrities have a mental health illness or disorder and asked participants whether they could match up the celebrity with their diagnosis.

Component four – Video One (Stand-Up Kid) and Video Two (Mind - mental health in our own words)

The final part of the focus groups involved the acceptability testing of two different videos. Only one of the videos would be included as a component of the intervention and the aim was to determine which video was most acceptable. Both videos aimed to target mental health knowledge and attitudes about mental health. The first video was called The Stand Up Kid (https://www.youtube.com/watch?v=SE5lp60_HJk) and was developed by Time to Change. It is three minutes long and depicts a fictional scenario of a teenage boy with depression. The video is set in a classroom in a school and starts with the boy walking in to class after being absent from school for two weeks. It shows the negative reactions of his teacher and classmates, with the boy joining in at first making jokes about why he has been off. Then the video switches to the boy standing up and performing a monologue about how it feels to have depression. After he has finished another student stands up, symbolising she also has a mental health problem. The video ends with statistics about the rates of mental health problems in young people. The second video was called Mental Health: In Our Own words (<https://www.youtube.com/watch?v=y97VF5UJcc>) and was developed by Mind (a mental health charity). It is nearly seven minutes long and shows 13 people aged 18-25 talking about their mental health problems. It is split up into five sections with each individual talking directly to camera about their experiences. The five sections are: It all started when...; At my worst I felt...; My mental health problem means that...; The hardest thing about having a mental health problem is... and When I look back I wish I'd known... The participants watched each video in turn, making notes if they wanted, and were then invited to discuss the positives and negatives of each video.

3.3.4 Analysis

Focus group transcripts were analysed using the scissor-and-sort technique.¹⁷² This involves first reading through the transcripts to identify the main topics and issues: in the case of this study each of the components of the intervention was identified as a topic. Next material related to each topic was identified and colour coded; there are no requirements for the material other than that it is related to the topic, so it can be a phrase or full sentence. For this study colour coding related to each topic, with sub-coding of each topic involving, for example, if the material was in reference to improvements for the component; if the material was in direct relation to an intended outcome of the component this was coded as another sub-code. Once this stage was completed the transcripts were physically cut apart and sorted into groups of material related to each topic. The scissor-and-sort technique can be carried out electronically however for this study the transcripts were printed and hard copies were then cut apart. Once these groupings of material were completed the data were collated by topic, with each topic in turn being summarised and interpreted to gain insight into the opinions of participants on each component.¹⁷²

While there are many methods for analysing focus group data, the scissor-and-sort technique was adopted for this study as it is a useful and effective method with similarities to other, more complex approaches.¹⁷² As the focus groups were completed to explore the views and opinions of high school students of the components of the intervention during a simulation of the intervention, discussion during the focus groups was more limited than would be expected by focus groups where participants are discussing their views and experiences of a topic under investigation. This meant that the scissor-and-sort technique was fitting as it allowed the material to be efficiently and

succinctly interpreted. The technique has been used previously for analysis of acceptability testing within HP interventions.¹⁷³

However, the technique does have limitations that must be acknowledged. It provides opportunity for the subjectivity of the analyst to influence the focus group findings, as the whole process is completed by one individual. This potential bias is present within all qualitative methodologies as the researcher is a central element of data collection and analysis, and therefore it is important that the process is described in a transparent manner.¹⁷⁴

When presenting verbatim quotations in the text unique participant identifiers are included, for example P1, P2 etc. In addition to a participant identifier, quotations are also presented with details of the focus group attended – for example, FG1 refers to focus group one, and FG2 to focus group two.

3.3.5 Ethical considerations

When conducting this study, several ethical considerations had to be taken into account, particularly as the participants were under the age of 16 and therefore parental or carer consent was required in addition to assent from the participants themselves. Further ethical issues concerned the use of opt-out consent, confidentiality and storage of research data. Ethical risks associated with the study were identified as potential distress to participants through either participation in the research or conflicts with parents/carers due to the consent process.

Ethical issues related to opt-out consent were addressed by using two methods for providing information about the study to the parents/carers and therefore two opportunities to opt out.

The ethical issue of data storage was managed by scanning and storing opt-out consent and assent forms on to the secure network drive (a file storage area which can only be accessed via individual university login) of EW for 5 years, and original hard copies destroyed. The focus groups were audio recorded using encrypted Dictaphones, and recordings were uploaded to a secure network drive. Once the files had been transferred they were deleted from the recording devices. To maintain confidentiality, recordings were transcribed verbatim immediately after the focus groups had taken place.¹⁴⁹ During and following transcription, if a participant had stated the names of other participants these were removed to protect the identity of these participants. Focus group data were pseudonymised, with each participant assigned a unique identifier.

As well as ethical issues, the ethical risk of a participant becoming distressed during the focus group process was considered and a strategy for mitigation incorporated into the study design. The focus groups were assessing the acceptability of components of the MHP intervention and did not involve the Y9 pupils talking about their own mental health. However, if any of the participants did become distressed then a distress protocol was in place to deal with this (Appendix 10). This involved firstly the focus group moderator suggesting the participant take a break from the focus groups. If this did not help and the participant wanted to leave the focus group then the lead for PSHE education or the pastoral team at the high school would be contacted. Another potential source of distress identified during the study design was associated with a parent

returning an opt-out consent form when a Y9 pupil had returned an assent form. To protect the autonomy or self-determination of the parent, it was decided that should this situation occur, a pupil would be informed that focus group participants had been selected at random, and that as a consequence they had not been selected during this process.

All ethical issues were explicitly described within the information provided to parents or carers and to the Y9 pupils. Ethical approval for the study was granted by Research Ethics Committee at the UoM (2018-4954-7167) (Appendix 11).

3.4 Results

3.4.1 Participants

Fourteen pupils volunteered, assented and had parental/carer consent to take part in a focus group to explore the acceptability of components of a MHP intervention. Two focus groups were completed with seven participants in each.¹⁵¹ Each group consisted of three male and four female participants. No other data were recorded related to participants' characteristics. The focus groups took place in a meeting room at the study site and lasted one hour, during a timetabled PSHE education lesson.

3.4.2 Component acceptability

As discussed in Section 3.3 acceptability was tested using two constructs, affective attitude and perceived effectiveness. Findings from analysis of the two focus groups are therefore presented in relation to these two constructs.

Component one – Prezi presentation

The Prezi presentation (Appendix 12) shown to participants was intended to provide both a structure to the intervention and informative content to the intervention. The activities would then take place at intervals throughout the presentation.

Affective attitude

Participants were asked to comment on the Prezi, including if the Prezi was eye-catching and easy to read. It emerged that due to the presentation being mainly in a blue colour, participants in fact found it difficult to read.

“Erm so the colour there, like that, that kind of blends into the background so maybe make that like a different colour” (FG1, P1)

Colour was commented on by other participants too. They provided suggestions for making changes to the appearance of the slides: one said *“...maybe [use] like different colours”* and another saying *“...on each slide on each type of one you could add different colours”*. Interestingly the participants linked colours with feelings, for example describing blue as both a *“calming”* and *“sad”* colour. This was not something that had been considered in the design of the presentation and represented something that needed consideration. Additionally, one participant recommended using *“happy”* colours, *“Like green and yellow”*.

Other visual aspects of the Prezi were discussed by participants. A lack of images was mentioned with one participant describing the presentation as *“a bit dull and boring”* and another adding an improvement to the presentation would be to *“add in images”*.

The text was commented upon in terms of ease of reading, with one participant stating *“needs [to be] bigger, the writing”*.

Component two – The Unacceptable and Acceptable Words Activity

Component two was the Unacceptable and Acceptable Words Activity. Participants were asked to discuss their reactions to this activity and to consider whether they thought it was going to achieve its intended purpose of changing attitudes towards mental health and changing public stigma.

Affective attitude

Once the participants had written down the words and completed the activity, they were asked how they felt about it. One of the main themes that came out of the discussions with participants was that they felt the method for completing the activity could be improved. Rather than dividing the group into two, with half writing down a list of acceptable words on one piece of paper and the other half writing down unacceptable words on another piece of paper, the groups felt that it would be better for each group to write down both positive and negative words on the same piece of paper.

Perceived effectiveness

When asked if they thought the activity had met its target of highlighting appropriate language to use whilst talking about mental health, the response from participants was positive. That those who had written down the negative words had been able to think of more words than those who had written down positive words was striking to participants. And although participants were able to think of positive words to describe

mental health, such as *“strong, fighter, brave, survivor, hopeful”*, they found it much easier to think of negative words. One of the targets of the component was to influence public stigma towards mental health and this was recognised by the participants.

“It shows you how much, like there are barely any positive words compared to the negatives, it shows just how much is said about people with mental illness”
(FG1, P3)

Participants reported that the component helped them to think about words used in relation to mental health, and to see these from other people’s perspectives, which was perceived as a positive impact of the activity.

“It was slightly hard if you’ve not been through, erm, mental health yourself so when you have to think about it from someone else’s perspective, it like, it changes the way you think so it’s also it’s also helpful” (FG2, P10)

Another target of the Unacceptable and Acceptable Words Activity was to have an impact on the attitude of participants towards mental health and the pejorative language used when describing poor mental health. The participants of the focus groups were able to relate the activity to their own use of language. One participant said:

“[the activity] makes you think that you need to watch what you’re saying sometimes and then when you’re writing it down you think about, “Oh have I ever said this to someone, how has that made someone feel?”” (FG2, P12)

Completing component two had an observable impact on those involved in the focus groups; for example, one participant who was initially sceptical about the intervention as a whole and had commented about a slide in the Prezi:

“Where it’s talking about, erm, don’t use disrespectful languages about like stuff like that and it has examples...people understand and know they shouldn’t say that...” (FG1, P5)

However, after completing the Unacceptable and Acceptable Words Activity they reflected that:

“It’s actually, actually so hard to think of any positive words about someone who has overcome mental illness” (FG1, P5)

Component three – The Celebrity Photograph Matching Activity

Affective attitude

It was important to determine that participants knew who all the celebrities in the photographs were before undertaking acceptability testing of this component. As a result, participants were asked if they knew the celebrities and whether there were any that they did not know. Half of the celebrities were known by the participants however none of the participants had heard of the other half (Stephen Fry, Drew Barrymore, Leonardo DiCaprio, JK Rowling and Wentworth Miller). Participants were also asked if they knew of any other celebrities who were not listed who had mental health problems and the participants were able to list a number of celebrities including Lady Gaga, Demi Lovato, Ariana Grande, Danny Rose and Dwayne Johnson.

Additionally, participants offered suggestions as to how to improve delivery of this activity as part of a MHP intervention, including: that working in pairs would be more beneficial than groups; and that it would be advantageous if the worksheet was one side

of A3 paper only so that all of the photographs could be seen at once. Participants also noticed the photographs were mainly organised by gender on the sheets of paper. They felt this could potentially lead to certain gendered conceptualisations.

“I think you should have like boy girl boy girl cause this looks a bit just like this side for the girls, this side for the boys” (FG1, P5)

Perceived effectiveness

One of the aims of the Celebrity Photograph Matching Activity was to change the attitudes of the participants towards mental health and to understand that mental health illnesses or disorders are often ‘invisible’. Evidence that the activity had successfully targeted this can be seen in the case of one participant who at the start of the task said *“I don’t think any of them have an illness”* suggesting they thought they would be able to ‘see’ who had a mental health illness from looking at a picture of a person. By the end of the activity the participant recognised that their preconceptions of mental health were wrong and that mental health is not necessarily something that can be seen but was more of a ‘hidden’ illness; they then reflected on this and the impact it might have on individuals:

“...and even if you’re not thinking, that could be offensive to someone with mental health [illness] (FG1, P1)

This was echoed by other participants who recognised the purpose of the activity was for students to learn that mental health cannot always be seen and that what is seen on the outside might not reflect how people are feeling on the inside.

“Cause it makes you like think, cause they look happy in all the pictures...” (FG1, P2)

“You don’t know what’s happening behind closed doors” (FG2, P10)

Using celebrities helped to consolidate this learning, as participants realised that they did not know whether a celebrity had a mental health illness or disorder.

“It’s like they’re celebrities and they’re well known and even so I didn’t know that...” (FG2, P8)

The link between mental health and wealth or celebrity was also discussed by the focus group participants. They discussed how on the surface it may look like someone might have no reason to have depression for example, but that it can affect people for many different reasons. Participants were able to feel compassion and empathy for the celebrities. One participant stated.

“When you look at a celebrity’s life you’re like how do they have depression?’ But they have so much to deal with and so much going on” (FG1, P5)

Another target for component three was public stigma, or how other people view individuals who have a mental health illness or disorder. The participants of the focus group seemed to unpack this themselves and were able to identify that mental health is often portrayed in a negative manner, and that this in turn may lead people to not disclose their own mental health illness. Participants highlighted the media as a source of negativity and a potential cause of public stigma.

“I think it’s the way the news might portray it sometimes” (FG2, P12)

An additional and unexpected outcome that was impacted by this component was knowledge surrounding mental health. When the participants were looking at the list of

possible mental health illnesses or disorders the celebrities had diagnoses of, there were a few that they did not know including anorexia, post-traumatic stress disorder and types of depression. The facilitators were able to explain these to participants thus supporting participants' learning about new illnesses and disorders during the activity.

"This is really interesting, there are disorders I didn't even know" (FG2, P12)

Component four – Video One (Stand-Up Kid) and Video Two (Mind - Mental health in our own words)

Affective attitude

In relation to Video One, participants liked the fact that this video was shorter, citing the fact that "teenagers have very short attention spans". Another participant felt the length of the video allowed for all the information and impact to be provided:

"The first one is snappy, gets your attention and you hear everything" (FG1, P5)

However not all the participants agreed. As the video was less than half the length it did not contain as much information and this was seen as a negative by some participants. The fact that it was a fictional scenario and contained no real-life experiences was also perceived in a negative way. One participant commented about Video One:

"I think the first one doesn't really explain much it just kind of says like, erm it doesn't really explain what illness he has, whereas in the second one it explains how they realised, what they did to overcome it and how they did to like stay away from that whereas the first one is just like saying "aw you all make fun of me"" (FG2, P8)

There was a mixed response to Video Two from participants. Some seemed to prefer this video and found it to be informative and honest, and they liked the fact that the people within the video were open.

“Erm it’s like good how they don’t hide it in the second one and like hide it away from people and it was good like they told it like on the internet and everything”
(FG2, P11)

However, as the video was around seven minutes long compared to three minutes for Video One, participants perceived it to be “*too long*” and that “*it drags on*”. This was reiterated by other participants who commented that they had seen other members of the focus group fidgeting throughout Video Two. Video Two was also felt by some participants to be less relevant to young people as it featured adults talking about their illness.

“Like we haven’t experienced anything like that like university that’s like stressful, we’ve not experienced anything like that, so like more people our age” (FG2, P8)

As Video Two featured adults some participants suggested that this might actually detract from the purpose of the overall intervention, which was to raise awareness of mental health illnesses and disorders in young people and that it might be more difficult to have empathy because of this difference. The lack of representation of people their own age was viewed as a limitation, and as potentially not achieving its intention of raising awareness that young people can have mental health illnesses and disorders, as commented by one participant:

“I think it’s like cause they’re not as young as us you might start to think there’s not a lot of people our age that have it that are our age” (FG2, P9)

Perceived effectiveness

The inclusion of a video as one of the components of the MHP intervention aimed to increase knowledge and awareness of mental health for the participants. This impact was demonstrated immediately after Video One by one participant, who asked:

“Is that a true statistic that three of your classmates will have mental health [illness]?” (FG1, P5)

Video One built on the learning associated with other components where knowledge that mental health cannot be seen increased. Moreover, it had an impact on how individuals planned to behave in the future, which is illustrated in this exchange between two participants:

“I think that you should like watch what you say around other people cause it could offend them and like people don’t have to show that they have depression or ADHD or anxiety like it’s not something that’s see-able” (FG1, P7)

“Exactly, it’s inside” (FG1, P1)

3.4.3 Changes to mental health promotion intervention

Following the acceptability testing, some minor changes were made to the intervention and are shown in Table 3.1 below. Changes to the Prezi presentation included the more extended use of colour and the addition of images (see Appendix 13 for more detail). The Acceptable and Unacceptable Words Activity was changed from a group activity to paired-work where each pair were asked to write down both sets of words to illustrate contrast. For the Celebrity Photograph Matching Activity the worksheet was changed to one A3 side of paper instead of 3 separate sheets and again this became a paired activity (see Appendix 14 for more detail). Video One was selected to be included in the MHP intervention over Video Two.

Table 3.1 Changes to MHP intervention

Component	Content	Reasons for component choice	Link to PSHE education curriculum	Target being addressed	Changes made after focus groups
Prezi presentation	<p>Web-based alternative to traditional PowerPoint presentation</p> <p>Contains slides with information about mental health illness and disorders, stigma, good mental health and how to improve mental health and signposting</p> <p>Presentation was blue in colour</p>	<p>Increasingly used to deliver interactive and individual presentations ¹³⁷</p> <p>Found to be more engaging and effective than standard presentations ¹³⁸</p>	<p>Core theme 1 Health and wellbeing: - the characteristics of mental and emotional health and strategies for managing these - coping strategies and ways to promote wellbeing and boost mood -the causes and triggers for unhealthy coping strategies, such as self-harm and eating disorders - how to recognise when they or others need help with their mental health and wellbeing; sources of help and support and strategies for accessing what they need</p>	<p>Mental health knowledge</p> <p>Attitudes towards mental health</p> <p>Personal help-seeking</p> <p>Social Distance</p>	<p>Colours changed as blue associated with feeling sad – multiple bright colours used throughout the presentation</p> <p>Images added throughout as lack of images found to be boring</p>
Acceptable and Unacceptable Words Activity	<p>Small group activity</p> <p>Group asked to write as many acceptable words on one side and unacceptable words on the other to describe mental health/someone with mental health illness</p> <p>Closing group discussion about the effect of stigmatised behaviour and attitude towards mental health</p>	<p>Stigma and stigmatised language known to have a negative impact upon help-seeking</p> <p>Use of stigmatised and negative language surrounding mental health known to be high amongst young people ¹⁴⁰</p>	<p>Core theme 1 Health and wellbeing: - the link between language and mental health stigma</p>	<p>Public stigma and stereotypes</p> <p>Mental health knowledge</p> <p>Attitudes towards mental health</p>	<p>Piece of paper to be split in half to show the contrast between number of words on each side</p> <p>Instead of group work, pupils to work in pairs</p>
Celebrity Photograph Matching Activity	<p>Group activity</p> <p>Three sides of A4 paper with photos celebrities and their mental health illness on and asked to match up</p> <p>Reflection at end of activity about how mental health is invisible, types of mental health illness and that mental health is expected to look like.</p>	<p>Celebrities known to have an influence on knowledge and attitudes to health behaviours ¹⁴¹</p> <p>Celebrities disclosure of their mental health problems can reduce stigma ¹⁴²</p>	<p>Core theme 1 Health and wellbeing: - the impact that media can have on how people think about themselves and express themselves, including regarding mental health</p>	<p>Public stigma and stereotypes</p> <p>Mental health knowledge</p> <p>Attitudes towards mental health</p>	<p>All photos now on one piece of A3 paper to aid running of activity</p> <p>A3 sheet laminated so whiteboard pens can be used to match</p> <p>Instead of group work, pupils to work in pairs</p>
Video One and Two	<p>Video One: The Stand Up Kid. A three minute video that shows a teenage boy standing up in class and describing what it is like to live with depression and what it feels like to be stigmatised for it. Information about the incidence of mental health illness in this age group provided too.</p> <p>Video Two: Mental health: In our own words. A seven minute video produced by Mind of real people e, aged 18-25 talking about what it is like to live with a mental health problem, and what helps them cope.</p>	<p>Videos are known to be a useful component of interventions ¹⁴³</p>		<p>Mental health knowledge</p> <p>Attitudes towards mental health</p>	<p>Video One selected to be used in the intervention</p>

3.5 Main findings

In this chapter a novel theory-informed MHP intervention (Chapter 1) informed by a scoping review (Chapter 2), consultation with a lead PSHE education teacher, and expert insight grounded in EW's background as a mental health healthcare professional was refined through acceptability testing satisfying the Development Phase of the MRC Framework (see Section 1.3.4.1). The MHP intervention components were found to be acceptable to stakeholders during a simulation of the intervention where it was tested in two focus groups with high school pupils. A recent update to the MRC Framework recommends acceptability testing as a critical step in ensuring an intervention is effective in causing change,¹⁰⁵ and that, moreover, stakeholder input when designing complex interventions is important,^{80, 175, 176} especially for this population.¹⁷⁷

Four components (Prezi presentation, the Unacceptable and Acceptable Words Activity, the Celebrity Photograph Matching Activity and Video One and Two) were tested using two constructs of acceptability: affective attitude (how an individual feels about the intervention) and perceived effectiveness (the extent to which an intervention is perceived as likely to achieve its purpose).¹⁶⁶ All components within the intervention were found to be acceptable to participants, with only minor changes suggested.

Based on the discussion that took place during the focus groups it appeared that the components were in the main successfully targeting their intended outcomes. During the simulation, it appeared that the intervention was capable of having an almost immediate impact on the knowledge and attitudes of young people towards stigmatised language surrounding mental health, and about what mental health looks like. This

further suggests that the intervention, refined through stakeholder input, would be acceptable to the wider population from which the focus group participants were drawn. The high school pupils were able to offer unique insights into how the components could potentially be effective at having an impact on the intended targets and also provided insight into the likely scale of impact of each component, demonstrating the value of involving stakeholders in intervention design to ensure that targets are appropriate.

Having completed the acceptability testing, the next step in this PhD programme of work was to refine the logic model underpinning the intervention design in response to the results of the simulated acceptability testing (the draft logic model was presented previously in Figure 2.6, Chapter 2). As can be seen in Figure 3.2, amendments were made to the outputs as the components of the MHP intervention were finalised; in addition, each component was linked directly to specific short term outcome. Overall the theory of change underpinning the intervention remained little altered.

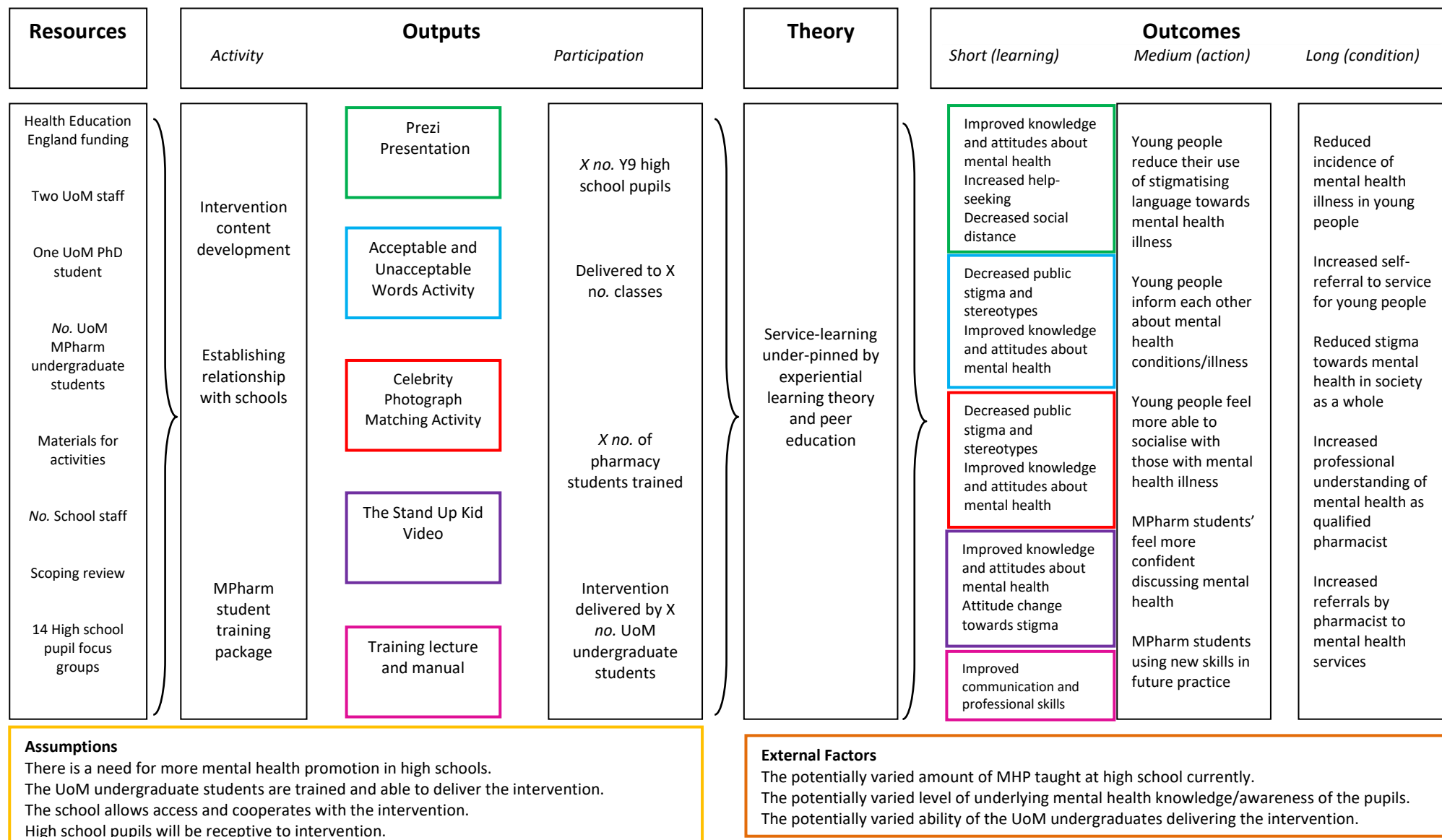


Figure 3.2 Refined logic model

3.7 Next steps

Having revised the MHP intervention following acceptability testing, the next step was to undertake a feasibility study. Feasibility studies are important for assessing the practical implementation of an intervention and are conducted prior to a main study. They allow for identification of any design features that require adjustment and of any potential pitfalls.¹⁷⁸ Feasibility testing began in December of the academic year 2018/19. Following completion of the feasibility study, the main study was conducted in December of the academic year 2019/20. The next chapter explores the impact of the MHP intervention on high school pupils in relation to both the feasibility study and evaluation of the main study when it was rolled out.

Chapter 4. Impact of a mental health promotion intervention on high school pupils

4.1 Introduction

In Chapter 3, a MHP intervention for high school pupils aged 13-14 years was tested for acceptability using stakeholder focus groups. In this chapter both a feasibility study and a main study are described where the intervention was delivered and evaluated. This chapter addresses multiple phases of the MRC Framework (highlighted in blue in Figure 4.1): the Feasibility Phase, Evaluation Phase and Implementation Phase.¹⁰⁵

This chapter is presented as follows: the chapter begins with a description of the methods and results of the feasibility study; next, there is a brief section describing changes made to the intervention and methods as a consequence of the feasibility study; subsequently results from the main study are presented before the chapter ends with a summary of the findings from both studies and conclusions, along with an outline of the next steps.

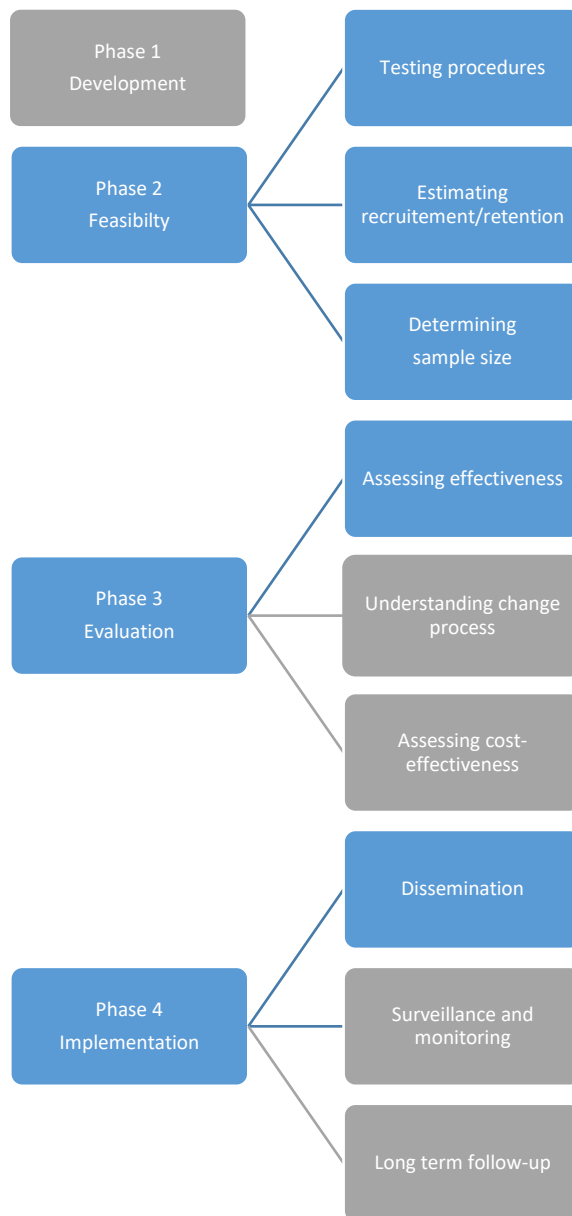


Figure 4.1 MRC Framework: Phases 2, 3 and 4

4.2 Aims and objectives

The overall aim of the studies undertaken and presented in this chapter was to evaluate the impact of a MHP intervention on high school pupils aged 13-14 years. The objectives for this were:

- To test the feasibility of a MHP intervention
- To refine the MHP intervention following completion of a feasibility study prior to its implementation in the main study
- To establish impact upon intervention targets (knowledge and attitudes towards mental health, public stigma and descriptive language usage of high school pupils), and the extent to which this impact is sustained

4.3 Methods

4.3.1 Design

The MRC Framework recommends undertaking a feasibility study before implementing an intervention.⁸⁰ A feasibility study aims to identify any problems that may occur within an intervention so they can be addressed prior to its implementation. These problems may be in terms of appropriateness, practicality or intervention delivery, as well as a number of other potential unknown complications. In addition, the feasibility of proposed methods for recruitment and evaluation can also be established at this stage. Study design is also tested during a feasibility study; the MRC recommend an experimental study design,⁸⁰ however this was not appropriate for this study.

An experimental study design involves randomisation of participants, and control groups are used. However, the MRC recognises that for some studies this approach is not

possible. An alternative, and widely-used approach, is a quasi-experimental, repeated measures study design; this was used for the work presented in this chapter to test intervention impact.¹⁷⁹ A quasi-experimental study design is one where randomisation is not used as the groups are already formed. Quasi-experimental studies can involve control group or one group only designs.¹⁸⁰ Although the use of control groups helps to ensure internal validity, they can be viewed as unethical for HP intervention studies as those not receiving the intervention can be seen as at a disadvantage.¹⁸¹ Recruiting for a control group to an intervention study can also be problematic; this was the case for the MHP intervention as if a control group had been recruited from another high school then there would be various factors that could differ between the groups such as the level of MHP already taught at the school and the weighting given to PSHE education within the curriculum.^{56,57} Additionally, controls and subjects would not have been able to be matched for demographics. Quasi-experimental design also has the advantage over experimental design in its ability to replicate 'real-life' compared to more controlled designs.¹⁸⁰

A repeated measures pre- and post-test design was used with one-group of respondents, a full cohort of Y9 students at a local high school. This meant that data were collected both pre-intervention and post-intervention with the same group of high school pupils using the same data collection tool. The pre-test was used to control for the lack of randomisation of the quasi-experimental design to increase validity of results.¹⁸⁰

This study aimed to gather numerical data to determine the impact of the intervention and as a consequence a method for collecting quantitative data was the most

appropriate, with statistical analysis used to determine size and significance of any change between pre- and post-intervention implementation.¹⁸² A survey was selected as the data collection method as they are an efficient way to collect a large amount of data from numerous individuals that allow for quantification and comparison of data collected at different time points.¹⁸³

4.3.2 High school pupil recruitment

There were two stages to recruitment. In the first stage, access to a suitable high school needed to be established. In the second stage recruitment of Y9 high school pupils within the school was undertaken. To facilitate stage one access, EW approached the same PSHE education lead who had previously supported the development of the intervention (acceptability testing reported in Section 3.2.1) and organised a meeting. During the meeting, the aim and content of the study was explained as well as expectations for any support required from the school to assist with undertaking the programme of work (feasibility study and main study). As well as outlining the study procedures, an explanation of the intervention delivery method was also provided at this stage – that is, EW provided details of how the MHP intervention would be delivered by MPharm students from the UoM as part of a mandatory aspect of their undergraduate education. The teacher agreed for feasibility testing of a MHP intervention to take place at the school in December 2018. This access agreement was confirmed in writing via email. This agreement was obtained again for the main study in December 2019.

Recruitment of the Y9 pupils was facilitated through the PSHE education lead who acted as a gatekeeper between EW and the target population. Using an advertisement

(Appendix 15) provided by EW, the PSHE education lead distributed this to Y9 class teachers. The class teachers were asked to read out the advertisement during a tutor period at the start of the school day.

Two recruitment packs were distributed by the PSHE education lead to each Y9 pupil on behalf of EW. The first pack was addressed to the pupil's parent or carer and contained a cover letter (Appendix 16), participant information sheet (PIS) (Appendix 17) and opt-out consent form (Appendix 18) as well as a stamped envelope, addressed to EW. The same recruitment pack was also sent via email to all parents or carers (Appendix 19). Parents/carers were requested to return the opt-out consent form within two weeks if they did not want their child to participate in the study.

A second recruitment pack was addressed to the Y9 pupils and containing a PIS (Appendix 20). The language within the PIS was amended to reflect the age of the participants. The PIS clearly detailed the process for gaining assent to take part in the feasibility study. This included that assent to participate in the feasibility study was implied by a participant completing and returning the data collection tool and that if participants completed the questionnaire at baseline they were not obliged to complete the questionnaire at follow up times.

4.3.3 Procedure

There was no sampling used in this study as the aim was to recruit the entire cohort of Y9 students at the study site rather than to sample from the cohort. No incentives were offered for participating in the feasibility study.

4.3.4 Data collection

Data were collected using a paper (hard copy) questionnaire distributed to all Y9 pupils at the study site at three time points (at baseline immediately pre-intervention (T1), one week post-intervention (T2) and three months post-intervention (T3)). At T1 the questionnaires were distributed by MPharm students involved in delivering the intervention and stored securely at the study site, before being returned to EW. At time points T2 and T3 the questionnaires were delivered to the study site addressed to the PSHE education lead who then distributed the questionnaires on behalf of EW to participants who were invited to complete a questionnaire during class tutor periods. The PSHE education lead sealed each class group into an envelope and these envelopes were then collected by EW.

Data collection tool

A survey was used to investigate the impact of the MHP intervention with data collected using a self-administered questionnaire (SAQ). Surveys are a useful method for collecting a large amount of data in a short time period¹⁸² and data analysis is relatively simple as software programs such as Statistical Package for Social Sciences (SPSS) can be used. Self-administered questionnaires are when the researcher is not physically present during data collection as the participant completes the questionnaire themselves.¹⁵⁶ Surveys, and in particular SAQs, allow participants to express their

opinions and views freely compared to methods that require interaction with a researcher such as interviews or researcher administered questionnaires.¹⁸⁴ The SAQ was administered in hard copy rather than electronically to aid response rate.¹⁵⁶

There are limitations with survey research that must be acknowledged including that participants may not understand items on the questionnaire or may interpret them differently. Another limitation of using questionnaires is that it is not possible to ascertain how much thought or effort participants are putting in to each response, and as a consequence participants may select random categories rather than a response that is most closely associated with their view or attitude, and this could affect the overall validity of any results.¹⁸²

When designing a survey it is recommended to use previously validated data collection tools and measures to collect data.¹⁸⁵ Thus in this study a validated tool was used. The selected tool contained six measures: knowledge and attitudes about mental health, stigma awareness and action, avoidance and discomfort, social distance, personal help-seeking, plus two vignettes. This tool was selected as it had been used previously in a study by Painter *et al.* evaluating the impact of an intervention designed to address similar targets and had been demonstrated as having good internal consistency.¹⁸⁶ Internal consistency determines the reliability of a measure. It indicates how much a measure is able to assess what it is designed to, for example if the measure for knowledge and attitudes about mental health actually captures data relating to this. Internal consistency is measured using Cronbach's alpha values and it is generally thought that a value of over 0.6 indicates an acceptable level of reliability, and over 0.8

indicates a good level.¹⁸⁷ The five measures used by Painter *et al.* reported Cronbach's alpha values of ranging between 0.63 and 0.92.¹⁸⁶

The tool developed by Painter was modified for this study and two measures were removed (two vignettes and the avoidance and discomfort scale). These were removed as they were not felt to appropriately capture data that related to the study objectives nor the content of the MHP intervention designed. This left four measures that were subsequently included in the questionnaire. The first measure was of knowledge and attitudes about mental health using a scale consisting of 22 items, with each item rated on a five-point Likert scale ranging from 1= strongly agree to 5=strongly disagree.¹⁸⁶ This was included as it related to the intervention targets covered in the Prezi presentation, the Celebrity Photograph Matching Activity, The Stand Up Kid Video and the Acceptable and Unacceptable Words Activity.

The second measure related to stigma awareness and action and was included to capture participants' level of awareness of stigma towards mental health.¹⁸⁶ It contained eight items and was measured using a dichotomous scale of 'yes' or 'no' (measured yes = 1 and no=0). This scale was included as it linked to the targets covered in the Celebrity Photograph Matching Activity and the Acceptable and Unacceptable Words Activity.

The third measure related to personal help-seeking and was included to capture the extent to which participants felt they would speak to different individuals such as their family, friends about their mental health.¹⁸⁶ It contained seven items and was measured using a dichotomous scale of 'yes' or 'no' (measured yes = 1 and no=0). This scale was included as it related to the targets covered in the Prezi presentation.

The fourth scale related to social distance and was included to capture how closely participants felt they would interact with someone with a mental health disorder or illness.¹⁸⁶ It contained six items, with each item rated on a 4-point Likert scale ranging from 1= definitely yes to 4=definitely no. This scale was included as it related to the targets covered in the Prezi presentation.

The questionnaire also asked participants to provide their name, to allow for removal of data if a parent or carer had returned an opt-out consent form and for matching of responses. The only demographic data collected was gender, this was captured as it had been found during the scoping review in Chapter 2 that intervention impact can vary by gender. Additionally, gender was also captured during the study by Painter *et al.*¹⁸⁶ The gender item had three options of male, female or 'other'. A copy of the questionnaire can be found in Appendix 21.

The questionnaire was piloted with approximately 15 pupils at the high school where the intervention was planned to be delivered. The questionnaire was amended following piloting, with the removal of one item from the knowledge and attitudes about mental illness scale due to the use of the word 'retardation' - this term was not felt to be appropriate for use in a UK context.

4.3.5 Analysis

The first round of data collection (T1) took place in early December 2018 immediately prior to the MHP intervention delivery, the second (T2) in mid-December 2018 approximately one week after the MHP intervention delivery and the third round (T3) in March 2019 approximately three months after the MHP intervention delivery. Responses were linked by matching each participant's name to a unique ID code.

Data were inputted into SPSS version 25 and screened to identify any data entry errors by running frequencies. Following this the method for data handling used previously by Painter *et al.*¹⁸⁶ was replicated. For measure one (knowledge and attitudes about mental health), nine items were reverse scored. No reverse coding was completed for measure two (stigma awareness and action), measure three (personal help-seeking or measure four (social distance). For the gender item, male was coded 1, female was coded 2 and 'other' was coded 3. Descriptive statistics were first calculated to provide frequencies and measures of central tendency. At this stage Cronbach's alpha was also calculated before undertaking further data analysis; a value of over 0.6 indicates an acceptable level of reliability, and over 0.8 indicates a good level.¹⁸⁷

Following this, a total and mean score was calculated for each measure and cross-sectional analysis was completed. Data at each of the three time points was compared, where the dependent variable was the total calculated score of the measure.¹⁸⁶ All completed questionnaires were included in the data set for cross-sectional analysis regardless of whether a participant had returned a SAQ at all three time points.

Next, data were analysed longitudinally using t-tests and ANOVA. These tests were selected as they had been used previously by Painter *et al* in the original study.¹⁸⁶ Expert advice surrounding the use of these tests was also sought from an experienced researcher at UoM with relevant methodological experience in longitudinal data analysis. T-tests are used to compare the mean scores of two groups and were selected in this study to compare scores between the same groups of participants at different time points and to compare scores between two different groups of participants (male and female) longitudinally. Initially, paired-sample t-tests were used to compare data of those participants who had returned SAQs at two time points (T1 to T2, T1 to 3 and T2 to T3). Next independent-samples t-tests were used to compare mean scores between genders. After this, scores for each of the scales were analysed using ANOVA to establish the impact of the intervention across the three time points, with the independent variable the group and the dependent variable the score on each measure. ANOVA shows if there are significant differences between mean scores across three or more groups, and in this case the three groups were the three data collection time points. ANOVA was selected for use in this study as it is used to compare mean scores of more than two groups which allowed the data collected at T3 to be analysed for impact across multiple rounds of data collection in order to address the study objective of establishing the extent to which impact was sustained. Only participants who had returned SAQs at all three time points were included in the data set for the ANOVA analysis.

As well as comparisons between scores calculated for the four measures (knowledge and attitudes about mental health, stigma awareness and action, personal help-seeking and social distance) at the three time points, an investigation of whether scores varied according to gender was undertaken. For any statistical analysis, participants who had

selected the category 'other' were treated as missing data as there was not enough data recorded for this category to allow for comparative analysis; these participants were removed from the dataset for this analysis. As a result, comparisons are between male and female participants only for t-tests and ANOVA. Descriptive statistics only are presented for participants in the 'other' category.

4.3.6 Ethical considerations

This study raised many of the same ethical considerations as the acceptability testing reported in Chapter 3. The participants were under the age of 16 and therefore needed parental or carer consent; this consent was for the use of data and not participation in the MHP intervention (participation was compulsory for the high school pupils as it was delivered as part of the core curriculum). Further ethical issues were the use of opt-out consent, confidentiality and storage of research data. Ethical risks that were identified were potential distress to participants through either participation in the MHP intervention or conflicts with parents/carers due to the consent process.

Ethical issues related to opt-out consent were addressed by using two methods to provide information to parents/carers and two opportunities to opt-out.

The ethical issue of data storage was managed by scanning and storing opt-out consent forms on the secure network drive of EW for 5 years in order to comply with UoM research ethics approval and information governance policies. Original paper copies were destroyed. To maintain confidentiality, questionnaires were linked by matching each participant's name to a unique ID code. The back page of the questionnaire containing the participant's name was then removed and destroyed.

The ethical risk of a participant becoming distressed during the MHP intervention was managed by the incorporation of a distress protocol (Appendix 22). This protocol stated that firstly a distressed pupil would be told they could have a break and leave the MHP intervention at any time. If they were still distressed the pupil would be taken out of the MHP intervention and put in contact with the lead for PSHE education or the pastoral team at the high school. The class teachers would also be present during the MHP delivery and when the Y9 pupils completed the questionnaires. They would be briefed on what to do in the case of a distressed pupil and would have access to the distress protocol. Another potential area for distress was if the parent or carer had completed the opt-out consent form but the Y9 pupil wanted to be involved in the research. If this happened the Y9 pupil would not be informed to avoid causing distress or conflict for either party. All Y9 pupils were invited to complete the SAQ, and if their parent or carer had returned an opt-out consent form then their data was removed by EW. The pupils were asked to include their names on the data collection tool to aid data removal.

All ethical issues were explicitly described within the information provided to the parents/carers and the Y9 pupils. Ethical approval was granted by Research Ethics Committee at the UoM for both the feasibility study and the main study (2018-5295-7617 and 2019-7752-12038) (Appendix 23 and 24).

4.4 Feasibility study results

Throughout this section, results are presented in tables with statistically significant results highlighted in bold. Where only statistically significant results are reported in the text, a more comprehensive set of results can be found in Appendix 25.

Summary of statistically significant results

A statistically significant positive change was seen when analysing the data longitudinally using paired sample t-tests for all participants from T1 to T3 for the knowledge and attitudes measure and from T1 to T3 for all participants for the stigma awareness measure. This statistically significant positive change was also seen when analysing the data longitudinally using paired sample t-tests for the personal help-seeking measure from T1 to T2 for all participants and for male participants only, as well as for the social distance measure from T1 to T3 and T2 to T3 for all participants, female participants only and male participants only. When using ANOVA to compare the results at all three time points, significant results were found for all participants for the stigma awareness measure and the personal help-seeking measure, and for the social distance measure significant results were found for all participants, male participants only and female participants only. Using independent t-tests to compare results between genders, there was a significant difference between male and female participants with males scoring more positively, at T2 for social distance.

4.4.1 Reliability

As the original data collection tool used by Painter *et al.* was amended for the feasibility study, analysis was run to determine internal consistency. Cronbach's alpha was

calculated for each of the four measures and these were 0.727 for the knowledge and attitudes about mental health measure, 0.548 for the stigma awareness and action measure, 0.638 for the personal help-seeking measure and 0.932 for the social distance measure. The interval consistencies for the knowledge and attitudes about mental health measure, the personal help-seeking measure and the social distance measure were above the acceptable level of reliability however the stigma awareness and action measure was found to be below the acceptable level.¹⁸⁷

4.4.2 Sample

Of the 143 Y9 pupils who took part in the MHP workshop, 119 SAQs were returned at T1. Three opt-out consent forms were returned; however, as not all participants had filled out their names on the SAQ this resulted in difficulty in matching these to the relevant SAQ and resulted in 18 SAQs (all SAQs without a name attached) being removed from the dataset as the participants without consent could not be identified. As a result, data analysis was completed for 101 questionnaires at T1 (response rate 71%). At T2 106 SAQs were returned but 14 SAQs (all SAQs without a name attached) had to be removed as the participants without consent could not be identified, so data analysis was completed for 92 questionnaires (response rate 64%). At T3 100 questionnaires were returned but 39 SAQs (all SAQs without a name attached) had to be removed as the participants without consent could not be identified, with data analysis completed for 61 questionnaires a (response rate 43%).

The proportion of male and female participants was similar at all three time points. At T1 there was 45.5% (n=46) male and 39.6% (n=40) female participants. Four participants selected 'other' (4%) and 11 participants (10.9%) did not answer the question. At T2

there was a slightly higher proportion of female participants, with 48.9% (n=45) female and 38% (n=35) male participants. Three participants selected 'other' (3.3%) and nine participants (9.8%) did not answer the question. Again at T3 there was a slightly higher proportion of female participants: 39.3% male (n=24) and 47.5% female (n=29) participants. Four participants selected 'other' (6.6%) and four participants (6.6%) did not answer the question.

4.4.3 Knowledge and attitudes about mental illness

The total possible score for the knowledge and attitudes about mental health scale ranges from 21 to 105, with a higher score indicating higher knowledge and a relatively positive attitude. Comparing the scores cross-sectionally, there was an increase between T1 (M=76.30, SD=7.67) and T2 (M=78.85, SD=7.80), but a decrease from T2 to T3 (M=76.82, SD=8.05) although it remained slightly higher than at baseline. When comparing the mean values by gender, male participants had a slightly higher score at baseline compared with female, with a higher score indicating greater knowledge and a more positive attitude. 'Other' participants had the lowest score at T1. Scores for all genders increased from T1 to T2 but this increase was only sustained at T3 for the 'other' category. Female participants had higher scores than male and 'other' participants at both T2 and T3; those reporting their gender as 'other' scored higher than male participants at T3. The mean values are shown on the next page in Table 4.1.

Table 4.1 Total mean values for knowledge and attitudes about mental health scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	76.30 (7.67)	99	77.51 (7.89)	45	76.10 (7.61)	39	69.75 (4.57)	4
T2	78.85 (7.80)	93	78.64 (8.62)	36	79.73 (7.23)	45	71.33 (5.51)	3
T3	76.82 (8.05)	61	75.92 (9.80)	24	77.52 (6.51)	29	76.50 (7.23)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for knowledge and attitudes about mental health between two time points, a statistically significant increase in scores from T1 (M=76.89, SD=6.89) to T2 (M=78.62, SD=7.71), $t(70) = -2.66$, $p < 0.05$ (two-tailed) was found (see Table 4.2). The mean increase in scores was 1.73 with a 95% confidence interval ranging from -3.03 to -0.43. When looking at scores recorded by male and female participants in the dataset no significant differences were found. It was not possible to complete this analysis for participants who had selected the 'other' gender category due to small numbers.

Table 4.2 Paired sample t-test for knowledge and attitudes about mental health scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-1.73	5.49	-3.03	-0.43	-2.66	70	0.01	71
	T1 to T3	-0.55	9.39	-3.14	2.04	-0.43	48	0.67	49
	T2 to T3	1.88	7.79	-0.51	4.28	1.59	42	0.12	43
Male	T1 to T2	-0.54	5.10	-2.51	1.44	-0.56	27	0.58	28
	T1 to T3	2.78	11.68	-3.03	8.59	1.01	17	0.33	18
	T2 to T3	5.07	11.51	-1.31	11.44	1.71	14	0.11	15
Female	T1 to T2	-1.66	5.50	-3.64	0.33	-1.70	31	0.98	32
	T1 to T3	-2.13	6.73	-4.97	0.72	-1.55	23	0.14	24
	T2 to T3	0.35	3.70	-1.25	1.95	0.45	22	0.66	23

When an independent samples t-test was conducted to compare the knowledge and attitudes towards mental health scores for males and females (see Table 4.3) no significant differences were found. It was not possible to complete this comparison for participants who had selected the 'other' gender category due to the small number of participants within this category.

Table 4.3 Independent sample t-test for knowledge and attitudes about mental health scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	1.41	-1.97	4.79	0.83	82	0.41
T2	-1.09	-4.598	2.41	-0.62	79	0.54
T3	-1.60	-6.12	2.92	-0.71	51	0.48

A one-way repeated measures ANOVA was conducted to compare scores at T1, T2 and T3. The means and standard deviations are presented in Table 4.4. No significant differences were found. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.4 One-way repeated measures ANOVA for knowledge and attitudes towards mental health scale

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	78.03 (6.72)	39	82.00 (4.00)	13	76.86 (6.82)	21
T2	80.15 (6.77)	39	83.00 (7.43)	13	79.05 (5.00)	21
T3	78.51 (7.34)	39	78.46 (9.98)	13	78.67 (4.89)	21

4.4.3 Stigma awareness and action

The total possible score on the stigma awareness and action scale can range from 0 to 8, with a lower score indicating a higher level of stigma awareness. Comparing the scores cross-sectionally, there was a decrease between T1 (M=3.75, SD=1.80) and T2 (M=3.52, SD=1.89), but a slight increase from T2 to T3 (M=3.54, SD=1.90) although it remained lower than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with females, and 'other' participants had the highest score. Scores for all genders decreased from T1 to T2. This decrease was sustained at T3 for male and 'other' participants but increased (but remained below baseline) for females. Participants reporting their gender as 'other' had lower scores than both male and female participants at both T2 and T3. The mean values are shown on the next page in Table 4.5.

Table 4.5 Total mean values for stigma awareness and action scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.75 (1.80)	93	3.93 (1.956)	43	3.55 (1.54)	40	4.75 (2.22)	4
T2	3.52 (1.89)	91	3.77 (1.77)	35	3.43 (1.87)	44	3.00 (2.65)	3
T3	3.54 (1.90)	61	3.75 (1.85)	24	3.52 (1.98)	29	2.75 (0.96)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for stigma awareness and action between two time points, There was a statistically significant decrease in scores from T1 (M=4.10, SD=1.56) to T3 (M=3.48, SD=1.88), $t(47) = 2.43$, $p < 0.05$ (two-tailed). The mean decrease in scores was 0.63 with a 95% confidence interval ranging from 0.11 to 1.14.

When comparing between male and female participants no significant differences were found. It was not possible to complete this statistical analysis for participants who had selected the category 'other'.

Table 4.6 Paired sample t-test for stigma awareness and action scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	0.13	1.40	-0.40	0.66	1.77	64	0.08	65
	T1 to T3	0.63	1.78	0.11	1.14	2.43	47	0.02	48
	T2 to T3	-0.03	1.68	-0.56	0.51	-0.09	40	0.93	41
Male	T1 to T2	0.12	1.21	-0.37	0.60	0.49	25	0.63	26
	T1 to T3	0.78	1.70	-0.07	1.62	1.94	17	0.07	18
	T2 to T3	0.22	1.48	-0.64	1.07	0.54	13	0.60	14
Female	T1 to T2	0.26	1.34	-0.23	0.75	1.07	30	0.29	31
	T1 to T3	0.42	1.89	-0.38	1.21	1.08	23	0.29	24
	T2 to T3	0.05	1.84	-0.77	0.86	0.12	21	0.91	22

An independent samples t-test was conducted to compare the stigma awareness and action scores for males and females (see Table 4.7). There were no significant results found. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.7 Independent sample t-test for stigma awareness and action scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.34	-0.48	1.16	0.82	77	0.41
T2	0.24	-0.83	1.30	0.44	51	0.66
T3	0.13	-0.64	0.89	0.32	81	0.75

A one-way repeated measures ANOVA was conducted to compare scores at T1, T2 and T3. The means and standard deviations are presented in Table 4.8. There was a significant effect for time, Wilk's Lambda = 0.87, $F(2, 35) = 2.74$, $p < 0.05$. A moderate effect size represented by multivariate partial eta squared = 0.14 was found. When comparing between male and female participants, no significant differences in scores were found. It was not possible to complete this analysis for participants who selected the 'other' category.

Table 4.8 One-way repeated measures ANOVA for stigma awareness and action scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	4.08 (1.57)	37	4.38 (1.76)	13	3.70 (1.46)	20
T2	3.54 (1.73)	37	3.85 (1.82)	13	3.55 (1.67)	20
T3	3.51 (2.00)	37	3.62 (2.02)	13	3.35 (2.08)	20

4.4.4 Personal help-seeking

The personal help-seeking scale ranged from 0 to 7 with a higher score indicating a greater level of personal help-seeking. Comparing the scores cross-sectionally, there was an increase between T1 (M=3.54, SD=1.78) and T2 (M=4.04, SD=1.80), but a decrease from T2 to T3 (M=3.89, SD=1.83) although it remained slightly higher than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with females, and 'other' participants the lowest baseline. Male and female participants showed an increased score from T1 to T2 whereas the score for 'other' participants decreased. The increase in score was sustained at T3 for male participants but decreased (but remained above baseline) for

females. The score for 'other' participants increased at T3 to above baseline. 'Other' participants had lower scores than both male and female participants at both T2 and T3 with those participants reporting themselves as belonging to the 'other' category having the lowest score at both of these time points. The mean values are shown below in Table 4.9.

Table 4.9 Total mean values for personal help-seeking scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.54 (1.78)	90	3.70 (1.67)	43	3.58 (1.88)	40	2.25 (2.63)	4
T2	4.04 (1.80)	91	4.50 (1.90)	34	3.98 (1.74)	45	1.67 (1.16)	3
T3	3.89 (1.83)	57	4.59 (1.97)	22	3.63 (1.71)	27	3.00 (1.41)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for personal help-seeking between two time points, there was a statistically significant increase in scores from T1 (M=3.61, SD=1.89) to T2 (M=4.21, SD=1.79), $t(61) = -2.66$, $p < 0.05$ (two-tailed) (see Table 4.10). The mean increase in scores was 0.60 with a 95% confidence interval ranging from -0.978 to -0.22.

When comparing between genders, for males there was a statistically significant increase in scores from T1 (M=3.72, SD=1.60) to T2 (M=4.40, SD=1.78), $t(24) = -3.44$, $p < 0.05$ (two-tailed). The mean increase in scores was 0.68 with a 95% confidence interval ranging from -1.09 to -0.27. There were no significant changes in scores for female participants. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.10 Paired sample t-test for personal help-seeking scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-0.60	1.50	-0.98	-0.22	-2.66	61	0.003	62
	T1 to T3	-0.40	1.90	-0.97	0.17	12.67	44	0.17	45
	T2 to T3	0.44	1.74	-0.13	1.00	13.64	38	0.13	39
Male	T1 to T2	-0.68	0.99	-1.09	-0.27	-3.44	24	0.002	25
	T1 to T3	-0.59	2.09	-1.67	0.49	-1.16	16	0.26	17
	T2 to T3	0.50	1.93	-0.73	1.73	0.90	11	0.39	12
Female	T1 to T2	-0.56	1.17	-1.19	0.07	-1.83	31	0.08	32
	T1 to T3	-0.35	1.82	-1.14	0.44	-0.91	22	0.37	23
	T2 to T3	0.41	1.82	-0.40	1.22	1.06	21	0.30	22

An independent samples t-test was conducted to compare the personal help-seeking scores for males and females (see Table 4.11), and no significant differences were found. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.11 Independent sample t-test for personal help-seeking scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.13	-0.64	0.89	0.32	81	0.75
T2	0.52	-0.30	1.34	1.27	77	0.21
T3	0.96	-0.10	2.02	1.83	47	0.07

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.12. There was a significant effect for time, Wilk's Lambda = 0.84, $F(2, 32) = 3.06$, $p < 0.05$. A large effect size represented by multivariate partial eta squared = 0.16 was found. Effect size over 0.14 is considered large.¹⁸⁸ When comparing between male and female participants no significant differences were found. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.12 One-way repeated measures ANOVA for personal help-seeking scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.62 (1.95)	34	4.45 (1.57)	11	3.30 (1.92)	20
T2	4.38 (1.76)	34	5.00 (1.79)	11	4.25 (1.65)	20
T3	3.94 (1.94)	34	4.55 (2.25)	11	3.75 (1.77)	20

4.4.5 Social distance

The social distance scale ranged from 6 to 24 with a lower score indicating a decreased likelihood to distance from someone with a mental health illness or disorder. Comparing the scores cross-sectionally, there was an increase between T1 (M=18.00, SD=4.85) and T2 (M=18.68, SD=4.01), but a decrease from T2 to T3 (M=11.33, SD=3.50). When comparing the mean values by gender, male participants had a slightly lower baseline score compared with female and 'other' participants. The score for male participants decreased from T1 to T2 but the score for female participants increased; for the 'other' subgroup of participants it remained the same. All gender categories had a decreased score at T3 compared to T1 and T2. At T2 males had the lowest score yet at T3 females had the lowest score. The mean values are shown overleaf in Table 4.13.

Table 4.13 Total mean values for social distance scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	18.00 (4.85)	90	17.63 (4.97)	43	18.58 (4.44)	40	19 (5.94)	4
T2	18.68 (4.01)	91	17.32 (4.26)	34	19.82 (3.70)	45	19 (4.58)	3
T3	11.33 (3.50)	60	11.61 (3.76)	23	10.97 (3.70)	29	11.50 (4.44)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for social distance between two time points. There was a statistically significant decrease in scores from T1 (M=18.54, SD=4.329) to T3 (M=10.96, SD=3.313), $t(45) = 8.56$, $p < 0.05$ (two-tailed). The decrease in scores was 7.59 with a 95% confidence interval ranging from 5.80 to 9.37. A statistically significant decrease in scores was shown from T2 (M=18.98, SD=3.119) to T3 (M=11.10, SD=3.392), $t(41) = 9.90$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.88 with a 95% confidence interval ranging from 6.27 to 9.49.

When comparing between genders a statistically significant decrease in scores was observed for male participants from T1 (M=18.71, SD=3.885) to T3 (M=10.94, SD=3.473), $t(16) = 5.63$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.77 with a 95% confidence interval ranging from 4.84 to 10.69. For females there was a statistically significant decrease in scores from T1 (M=19.00, SD=3.93) to T3 (M=10.79, SD=3.27), $t(23) = 7.32$, $p < 0.05$ (two-tailed). The mean decrease in scores was 8.21 with a 95% confidence interval ranging from 5.89 to 10.53. For males there was a statistically significant decrease in scores from T2 (M=19.07, SD=3.149) to T3 (M=11.36, SD=4.05), $t(13) = 5.11$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.72 with a 95%

confidence interval ranging from 4.45 to 10.98. For females there was a statistically significant decrease in scores from T2 (M=19.17, SD=3.24) to T3 (M=10.61, SD=2.86), $t(22) = 8.73$, $p < 0.05$ (two-tailed). The mean decrease in scores was 8.57 with a 95% confidence interval ranging from 6.53 to 10.60. Overall females had an increase in score from T1 to T2 but a significant decrease in score from T1 to T3 and from T2 to T3. Males had a decrease in score at all time points however this only reached statistical significance from T1 to T3 and T2 to T3. It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.14 Paired sample t-test for social distance scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-0.14	2.67	-0.81	0.53	-0.42	63	0.67	64
	T1 to T3	7.59	6.01	5.80	9.37	8.56	45	0.00	46
	T2 to T3	7.88	5.16	6.27	9.49	9.90	41	0.00	42
Male	T1 to T2	0.04	2.70	-1.03	1.10	0.07	26	0.94	27
	T1 to T3	7.77	5.69	4.84	10.69	5.63	16	0.00	17
	T2 to T3	7.72	5.65	4.45	10.98	5.11	13	0.00	14
Female	T1 to T2	-0.16	2.77	-1.16	0.84	-0.32	31	0.75	32
	T1 to T3	8.21	5.49	5.89	10.53	7.32	23	0.00	24
	T2 to T3	8.57	4.71	6.53	10.60	8.73	22	0.00	23

An independent samples t-test was conducted to compare the social distance scores for males and females (see Table 4.15). At T2 there was a significant difference in scores

between males (M=17.32, SD =4.26) and females (M=19.82, SD=3.70); $t(77) = -2.79$, $p < 0.05$ (two-tailed). It was not possible to complete this analysis for participants who had selected the 'other' gender category.

Table 4.15 Independent sample t-test for social distance scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	-0.95	-3.01	1.12	-0.91	81	0.36
T2	-2.5	-4.29	-0.71	-2.79	77	0.01
T3	0.65	-1.34	2.63	0.65	50	0.51

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.16. Adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. A significant effect for time was shown $F(1.38, 49.82) = 80.74$, $p < 0.05$. A large effect size represented by multivariate partial eta squared = 0.69 was found. For males adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was a significant effect for time $F(1.19, 14.29) = 28.46$, $p < 0.05$ and multivariate partial eta squared = 0.70. For females adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was a significant effect for time $F(1.61, 32.20) = 54.75$, $p < 0.05$ and multivariate partial eta squared = 0.73. It was not possible to complete this statistical analysis for participants who had selected the 'other' gender category.

Table 4.16 One-way repeated measures ANOVA for social distance scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N

T1	19.05 (3.76)	37	19.08 (3.75)	13	19.38 (3.65)	21
T2	19.11 (3.20)	37	19.31 (3.15)	13	19.19 (3.39)	21
T3	10.70 (3.24)	37	10.77 (3.54)	13	10.57 (2.978)	21

4.5 Changes in evaluation design

The feasibility study was used to test several different aspects of feasibility. Firstly, the feasibility study looked to test the practicality of delivering the intervention; this was found to be appropriate for full implementation and the results presented above suggest that it is feasible to run the MHP intervention. Study design, recruitment and evaluation were also assessed. It was found that the evaluation process was capable of capturing intervention impact. However, it was identified that there were some problems in terms of the data collection process that resulted in avoidable missing data so a number of changes were made to the evaluation methods prior to conducting the main study with the aim of addressing this problem. This involved EW visiting the school and explaining the study procedures and the rationale for the inclusion of names, as well providing additional assurances regarding the anonymity and confidentiality procedures to the cohort of Y9 pupils. Although all of this information was in the PIS for the feasibility study this change was intended to improve the completion of the section of the SAQ where the participants needed to include their names so that responses from the same participant could be analysed longitudinally.

Changes were also made to the data collection tool. In the survey used for the feasibility study four measures were included to establish the impact of the intervention. It was decided that the first scale used to evaluate the feasibility study, knowledge and attitudes towards mental health, would remain within the SAQ. The second scale used

in the feasibility study, awareness of stigma, was replaced with the AQ-C 8 stigma scale as this scale is one of the few public stigma scales developed for use with children.¹⁸⁹ This change was made as the internal validity for stigma awareness measure was found to be below the acceptable level. The new measure more directly related to the targets covered Prezi presentation, the Celebrity Photograph Matching Activity, The Stand Up Kid Video and the Acceptable and Unacceptable Words Activity from the MHP intervention. The AQ-C 8 stigma scale contains seven items, with each item rated on a nine-point Likert scale. Responses are coded 1-9 depending on response; responses to one item (number 7 – How likely is it that you would help the new student with school work?) was subsequently reverse coded.¹⁸⁶

The third and fourth scales in the SAQ used to evaluate the feasibility study, personal help seeking and social distance, were removed. This decision was taken as to understand more about the participants' views and opinions and it was felt a qualitative approach and the use of an open-ended question would be more suitable.¹⁸² Therefore a measure collecting qualitative data and asking the open-ended question 'What sorts of words or phrases might you use to describe someone who experiences mental health problems?'¹¹⁹ was included. It was felt this linked more directly to the Unacceptable and Acceptable Words Activity component of the MHP intervention. This measure had been used in a similar study, collecting data at three different time points¹¹⁹ with data analysed and transformed into numerical data.^{119, 139}

These changes were made to ensure the theory of change was embedded throughout the evaluation allowing for MHP intervention outcomes to be more closely aligned with

SAQ measures. The changes also reduced the length of the SAQ and the length of time to complete it. The questionnaire used in the main study can be seen in Appendix 26.

4.6 Main study results

The feasibility study established the overall repeated measures study design using a survey distributed at three time points was appropriate however some of the methods and tools within the design needed modification. Procedures for recruitment and data collection were on the whole appropriate however the data collection tool (the SAQ) was modified and EW also visited the school during the recruitment process as an additional step. The same approach was taken to gaining consent.

Following revisions to the SAQ described in Section 4.5, the main study SAQ contained three measures; measure one collected qualitative data to capture the words used to describe mental health, measure two was the same measure used to capture data about knowledge and attitudes about mental health and measure three was the new measure to collect data in relation to public stigma. The first round of data collection (T1) took place in November 2019 immediately before the MHP intervention delivery, the second round (T2) in December 2019 approximately one week after the MHP intervention delivery and the third round (T3) in March 2020 approximately 3 months after the MHP intervention delivery.

Again, throughout the results section for the main study, results are presented in tables with statistically significant results highlighted in bold within these. Only statistically

significant results are presented in the text. The full set of results can be found in Appendix 25.

Summary of significant results

There were no significant results found during analysis of the main study.

4.6.1 Reliability

Analysis was run to determine internal consistency. Cronbach's alpha was calculated for each of the measures 2 (knowledge and attitudes about mental health) and measure 3 (public stigma) and these were 0.74 and 0.65 respectively. These were both above the acceptable level of reliability.¹⁸⁷

4.6.2 Sample

Of the 138 Y9 pupils who took part in the MHP workshop, 122 SAQs were returned at T1. Two opt-out consent forms were returned, which resulted in the removal of two SAQs. Therefore data analysis was completed for 120 questionnaires at T1 (response rate 87%). At T2 110 SAQs were returned, and again 2 SAQs were then removed from the dataset, with data analysis completed for 108 questionnaires (response rate 78%). At T3 101 questionnaires were completed but three (all SAQs without a name attached) had to be removed as the participants without consent could not be identified. Subsequently data analysis was completed for 98 questionnaires at T3 (response rate 71%). The number of usable responses for the longitudinal analyses was larger for the main study compared to the feasibility study.

The proportion of male and female participants was similar at all three time points. At T1 there was 55% (n=66) male and 45 % (n=54) female participants. At T2 there was 56.5% (n=61) female and 41.6% (n=45) male participants. Two participants (1.9%) did not answer the question. At T3 there was a slightly higher proportion of male participants as there was 59.3% male (n=58) and 38.7% female (n=38) participants. Four participants (2%) did not answer the question.

Initially, scale totals and means were calculated for each of the scales and compared at each of the three time points.¹⁹⁰⁻¹⁹⁴ T-tests were used to compare data (T1 to T2, T1 to 3 and T2 to T3). Scores for each of the scales was analysed using ANOVA longitudinally to establish the impact of the intervention.

4.6.3 Descriptions of mental health

The statement ‘What sorts of words or phrases might you use to describe someone who experiences mental health problems’ was used to capture data for this measure.¹¹⁹ The results of T1, T2 and T3 for the mental health descriptions section of the SAQ were tabulated (see Appendix 27). In this study, each term used by a participant was entered into a Microsoft Excel spreadsheet, with the responses for each participant at the three time points linked. The terms were then analysed in relation to seven categories of responses: emotions, characteristics, labels, suggested causes, medical descriptions, sensitive descriptions and methods to improve mental health as in the original study.¹¹⁹ Once this had been completed frequencies for each term were calculated, as were the number and percentage of words in each category. Data were compared at the three time points to see if there had been a change in language used.

At T1, 78% (n=94) of participants provided a response to this question. Phrases containing emotions (36%), medical terms (11.5%) and labels (14%) were used the most frequently. The most common words used at this time were “depressed”, “sad” and “troubled”. Suggested causes (9%), ways to improve mental health (3%) and sensitive terms (12%) were used less frequently. Examples of the terms most commonly used were “bullying”, “requires help” and “special”.

At T2, 72% (n=78) of participants provided a response to this question. Phrases containing sensitive terms (22%) and medical terms (30%) were all used more often than at T1. Examples of these terms most commonly used were “special”, “unique” and “anxiety”. The use of phrases containing emotions (29%), characteristics (7%), suggested causes (2%) methods to improve mental health (2%) and labels (5%) all decreased from T1. The most common labels that were used were “unstable” and “mentally unstable” which were both used three times whilst also being at both T1 and T3. Many labels used at T1 were not used at all at T2, or were used by a single participant.

At T3, 74% (n=73) of the participants provided a response to this question. Generally phrases containing emotions (41.3%), characteristics (11.5%), suggested causes (3%) and sensitive terms (20%) were all used more often than at T1 and T2. Examples of these terms most commonly used were “depressed”, “alone” and “normal”. These words were also some of the most common at T1 and T2. The use of labels (6.7%) decreased from T1 and T2. The most common label that was used was “mentally unstable” was only used twice and this label was also used at both T1 and T2. Many labels used at T1 and T2 were not used at all at T3, or were used by single participants. Medical terms

(17.5%) had a decrease in percentage use at T3 however these terms were very similar to those used at T1 and T2, with “anxiety” and “depression” being used most often.

Overall the results from this measure indicate that the use of sensitive language increased from T1 to T2 and further increased at T3. The use of labels or insensitive language decreased from T1 to T2 and this decrease was sustained at T3.

4.6.4 Knowledge and attitudes about mental illness

The knowledge and attitudes about mental health scale ranged from 21 to 105 with a higher score indicating higher knowledge and a more positive attitude. Comparing the scores cross-sectionally, there was a decrease between T1 (M=77.96, SD=8.10) and T2 (M=77.78, SD=9.75), but an increase from T2 to T3 (M=77.90, SD=8.56) although it did not return to baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with female. Female scores increased from T1 to T2 but male scores slightly decreased. This increase in score was sustained at T3 for female participants but further decreased for males. Female participants had higher scores than males at both T2 and T3. The mean values are shown overleaf in Table 4.17.

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	77.96 (8.10)	120	78.02 (7.38)	66	77.89 (8.97)	54

T2	77.78 (9.75)	104	77.55 (9.81)	60	78.09 (9.76)	44
T3	77.90 (8.56)	99	76.89 (8.34)	56	79.21 (8.77)	43

Table 4.17 Total mean values for knowledge and attitudes about mental health scale at all three time points by gender

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for knowledge and attitudes about mental health between two time points, no significant differences in scores were found. When comparing between male and female participants no statistically significant differences were found.

Table 4.18 Paired sample t-test for knowledge and attitudes about mental health scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-0.13	11.73	-2.53	2.28	-0.11	93	0.92	94
	T1 to T3	-0.14	9.30	-2.13	1.85	-0.14	85	0.89	86
	T2 to T3	0.67	12.11	-2.20	3.53	0.46	70	0.65	71
Male	T1 to T2	0.25	11.22	-2.87	3.37	0.16	51	0.87	52
	T1 to T3	0.54	8.27	-1.86	2.94	0.45	47	0.65	48
	T2 to T3	1.57	11.70	-2.13	5.26	0.85	40	0.40	41
Female	T1 to T2	-0.59	12.46	-4.47	3.29	-0.31	41	0.76	42
	T1 to T3	-1.00	10.50	-4.45	2.45	-0.58	37	0.56	38
	T2 to T3	-0.57	12.73	-5.32	4.19	-0.24	29	0.89	30

An independent samples t-test was conducted to compare the knowledge and attitudes towards mental health scores for males and females (see Table 4.19). There were no significant results found.

Table 4.19 Independent sample t-test for knowledge and attitudes about mental health scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.13	-2.83	3.08	0.09	118	0.93
T2	-0.55	-4.40	3.31	-0.28	102	0.78
T3	-2.51	-6.00	0.98	-1.44	95	0.15

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.20. There were no significant results found.

Table 4.20 One-way repeated measures ANOVA for knowledge and attitudes about mental health scale by gender

	All		Male		Female	
Time point	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	78.73 (7.57)	66	78.18 (6.55)	38	79.46 (8.86)	28
T2	79.00 (8.40)	66	78.95 (7.80)	38	79.07 (9.30)	28
T3	78.53 (8.42)	66	77.78 (8.16)	38	79.57 (8.81)	28

4.6.5 Public stigma

The public stigma scale ranged from 9 to 72 with a lower score indicating less public stigma towards people with mental health illness or disorder. Comparing the scores

cross-sectionally, there was an increase between T1 (M=22.05, SD=7.89) and T2 (M=22.13, SD=9.46), but a decrease from T2 to T3 (M=21.65, SD=8.72) to lower than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with female. Females score increased slightly from T1 to T2 and males remained the same. Female scores decreased to below baseline at T3 but male scores increased. Female participants had lower scores than males at both T2 and T3. The mean values are shown below in Table 4.21.

Table 4.21 Total mean values for public stigma scale at all three time points

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	22.05 (7.89)	120	22.71 (8.55)	66	21.24 (7.00)	54
T2	22.13 (9.46)	100	22.71 (10.09)	59	21.29 (8.52)	41
T3	21.65 (8.72)	96	22.85 (9.94)	54	20.10 (6.63)	42

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for public stigma, there were no significant results found. When comparing for gender there were no statistically significant results found.

Table 4.22 Paired sample t-test for public stigma scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	0.30	6.01	-0.96	1.56	0.47	89	0.64	90
	T1 to T3	0.64	10.63	-1.68	2.96	0.55	82	0.59	83
	T2 to T3	0.75	12.45	-2.26	3.76	0.50	67	0.62	68
Male	T1 to T2	0.61	5.03	-0.81	2.02	0.86	50	0.39	51
	T1 to T3	1.14	10.42	-1.96	4.23	0.74	45	0.47	46
	T2 to T3	0.87	12.68	-3.24	4.98	0.43	38	0.67	39
Female	T1 to T2	-0.11	7.14	-2.42	2.21	-0.90	38	0.93	39
	T1 to T3	0.03	11.00	-3.64	3.70	0.15	36	0.99	37
	T2 to T3	0.59	12.35	-4.11	5.28	0.26	28	0.80	29

An independent samples t-test was conducted to compare the public stigma scores for males and females (see Table 4.23). There were no significant results found.

Table 4.23 Independent sample t-test for public stigma scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	1.47	-1.40	4.40	1.02	118	0.31
T2	1.42	-2.41	5.24	0.74	98	0.46
T3	2.49	-1.04	6.01	1.40	92	0.17

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.24. There were no significant results found.

Table 4.24 One-way repeated measures ANOVA for public stigma scale

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	21.94 (6.99)	63	22.89 (7.97)	36	20.67 (5.29)	27
T2	21.24 (7.95)	63	21.50 (7.91)	36	20.89 (8.14)	27
T3	20.29 (6.89)	63	20.58 (6.86)	36	19.89 (7.06)	27

4.7 Main findings

In this chapter the results of both the feasibility and main study have been presented. The key findings from these two studies and the implications for MHP and future research are discussed in more detail in Chapter 6. However, what is notable from the findings presented at this stage is that the MHP intervention appeared to have shown it is possible to have an overall positive and sometimes sustained impact on raising mental health awareness in high school pupils via a one-off MHP intervention. Although these changes did not always achieve statistical significance, a consistently positive impact of the intervention was found; it is possible that health promotion intervention such as this may have a larger ‘real-life’ impact than is captured via the methods used to evaluate the MHP intervention.⁶⁰ This is also discussed further in Chapter 6. The reasons why and how the intervention had an impact remain outside the scope of this PhD programme of work; in future such insight could be captured by a process evaluation. This limitation to the PhD programme of work is discussed further in Chapter 6.

4.8 Next steps

As the MHP intervention was delivered to high school pupils by third year MPharm students taking part in a SL programme, Chapter 5 presents findings related to the impact of delivering the intervention on the MPharm students as service- learners.

Chapter 5. Impact of service-learning on MPharm students

5.1 Introduction

Chapter 4 presented findings from an evaluation of the impact of a MHP intervention on high school pupils. This chapter considers the impact of delivering the intervention on third year MPharm students as part of a SL programme at the UoM. The concept of SL was first discussed in Section 1.3.2.2; here it is used as a lens for exploring the learning outcomes achieved by MPharm students via intervention delivery. This chapter also provides additional evidence in support of a number of phases of the MRC Framework for the development and evaluation of complex interventions (highlighted in blue in Figure 5.1); the Feasibility Phase, Evaluation Phase and Implementation Phase.¹⁰⁵

The chapter begins with a description of the methods used to explore the impact of delivering the MHP intervention on third year undergraduate MPharm students to two cohorts of Y9 pupils (those involved in the feasibility study in 2018 and those involved in the main study in 2019). This is followed by presentation of the results of the study. The chapter finishes with a short summary of the main results and conclusion.

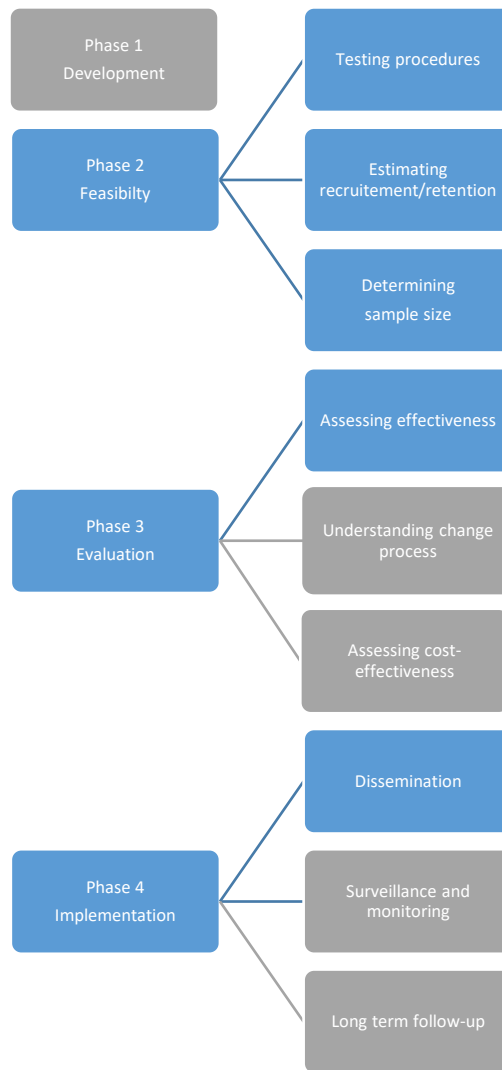


Figure 5.1 MRC Framework: Phases 2, 3 and 4

The SL programme at UoM involves each third year MPharm student delivering a HP intervention to a class of high school pupils. There are eight HP interventions (mental health, antimicrobial resistance, diabetes, sexual health, drug awareness, obesity, well-being and alcohol awareness). The programme is mandatory and credit bearing; students are required to deliver a HP intervention and complete a reflective record as a summative assessment that is marked as pass or fail as part of a strand within the MPharm curriculum for delivering placements (Integrated Professional Practice). Students deliver the intervention in groups of three or four and are randomly allocated

to both the group and HP topic. The MHP intervention being evaluated in this PhD programme of work is one example of the HP interventions delivered.

Ahead of delivering the MHP intervention, students received a training session briefing, during which they were provided with a short guide (see Appendix 28) with recommendations regarding how to structure delivery of the MHP intervention and provided with an introduction to the materials used during delivery of the intervention. Training also included providing students with the ILOs for the SL programme, which were:

1. To gain experience in community engagement
2. To deliver preventative HP advice to a community group
3. To develop communication skills
4. To develop professional skills

Students were offered an opportunity to practise delivery of the MHP intervention and receive feedback from EW in a safe, simulated environment.

5.2 Aims and objectives

This study aimed to evaluate the impact of delivering a MHP intervention on third year MPharm students. The objectives for this study were:

- To explore views of third year MPharm students on the SL programme and the facilitation of learning
- To establish if the ILOs were met after completing the SL programme
- To identify any changes or improvements that could be made to the SL programme

5.3 Methods

5.3.1 Design

This exploratory, qualitative study aimed to explore the impact of delivering a MHP intervention on third year MPharm students as service-learners.¹⁴⁹ Two methods of data collection were used in this study: reflective records and focus groups. Reflective records were completed by MPharm students who delivered the MHP during the feasibility or main study. In order to further explore the impact of the SL programme focus groups were also conducted; only those who delivered the main study were invited to the focus groups.

5.3.2 Reflective records

Reflective records were used to collect data about MPharm students' views of the SL programme. Reflection enhances deeper learning, and develops students' ability to become lifelong learners.^{195, 196} Reflection is a skill that needs to be learned and as such introducing MPharm students to reflection is important for ensuring students develop the skill prior to starting professional practice.⁷ This is of particular importance for pharmacy students as reflection and continuing professional development are essential aspects of being a pharmacist, and are included within the GPhC Standards for Pharmacy Professionals.⁹

The reflective records were collected as a form of summative assessment within the MPharm programme – students could not pass their MPharm degree without completing a record. It must be recognised at this stage that this may have had an impact on how the students' completed the reflective records. A study into

physiotherapy students completing reflective records found that only a fifth of students were completely truthful in writing up their reflections, with a number of factors found to influence how truthful they were including: students aiming to write within assessment criteria; difficulty remembering details of the event for reflection; the notion that although the event described may be dishonest, the reflection itself was truthful; and the need to work within a word count or other structured parameters.¹⁹⁷ Findings from the literature were considered and a number of steps taken to mitigate problems identified related to using reflections for summative assessment. For example, the students' reports were marked as pass /fail based on their ability to reflect rather than the specific contents of the reflective report using a percentage grade assessment. They were also encouraged to submit the report promptly after completing the activity to enhance the chance of remembering relevant details. The reflective reports were not given a word count which encouraged students to include as much detail as they thought appropriate. Although structured questions were used within the reflective report, these were written as open questions which aimed to act as a guide for students only.

197, 198

In the SL study described in this thesis, Kolb's experiential learning cycle is used as a model for unpacking MPharm students' experiences, with the reflective records mapped the Reflective Observation Stage (Figure 5.2).^{13, 20} For more details of the learning cycle see Section 1.3.2.

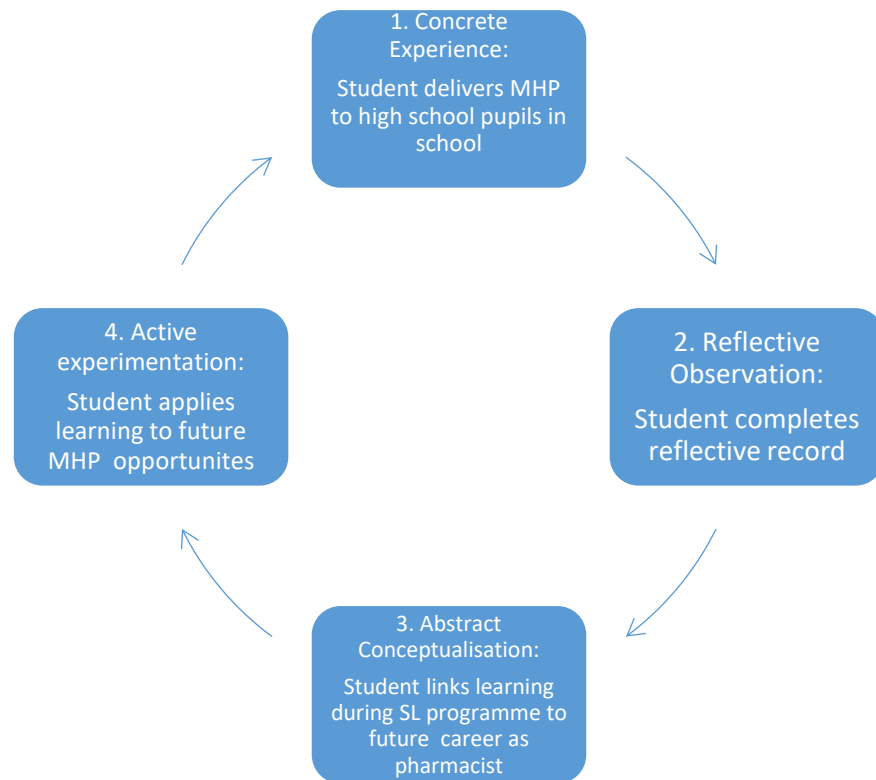


Figure 5.2 Using Kolb's experiential learning cycle to map student experience of the SL programme

Reflection supports learning during experiential education, such as SL, where students are put into a situation which is unknown, and they must apply and adapt skills learned previously.^{195, 199} In this study reflective records were used not only as an educational tool but also as a method for collecting rich, qualitative data.^{37, 200} As the aim of this study was to gather data about a particular group, the MPharm students, the lack of generalisability as with all qualitative methods was not relevant.¹⁴⁹ Using quantitative methods was not appropriate for this study as to understand what the MPharm students were reflecting about during the SL programme, narrative accounts (reflection) were needed rather than data that could be summarised numerically.

Delivery of a HP intervention was mandatory for the MPharm students as the SL programme is part of the 3rd year MPharm curriculum. After delivering an intervention, 3rd year MPharm students were further required to submit a reflective record, onto the online virtual learning environment at UoM called Blackboard via a submission portal. As completing the reflective record was a piece of assessment on the MPharm degree programme no formal ethical approval was required to analyse the records for this PhD programme of work, although good ethical practice was adhered to and consent was obtained from the MPharm students to use their reflections as data for the purposes of evaluation. In addition, students were reminded that the use of their data for research purposes was entirely voluntary and any data reported in the study would remain anonymous. While all students were required to complete a reflection on delivering a public HP intervention, only those submitted by students who had delivered the MHP intervention were analysed for this PhD programme of work.

5.3.2.1 Procedure

The reflections of the students who had consented for them to be used for the purpose of this PhD programme of work were downloaded from Blackboard. Each reflection was structured to prompt students to consider the following four questions: *Please describe the activity completed as part of the programme; Did this activity help to develop any skills, knowledge and professional behaviours?; How will this learning benefit future practice? and Are there any other skills that could be further developed for this area?.* These four questions map to the ILOs for the SL programme (presented previously in Section 5.2) and were designed to facilitate the experiential learning process as conceptualised by Kolb.

5.3.2.2 Analysis

Data collection took place in March 2019 and March 2020 and consisted of reflective records from two cohorts of third year MPharm students. The records were aggregated to form a single dataset. To maintain confidentiality, data were anonymised by removing any identifiers (such as a student's name) and given a unique study number, starting from one. When presenting findings, participants are identified by this number, for example P1 indicates Participant 1.

There are many methods for analysing qualitative data, such as an inductive approach whereby the data is gathered first and then theory developed once patterns have been identified.²⁰¹ Deductive analysis is another approach which involves applying a theory or framework to a data set and exploring to what extent the framework captures the opinions given within the data.²⁰¹ Deductive analysis was selected for this study as a specific framework, the Framework for Learning Outcomes for Service-learning developed by Eyler and Giles¹⁸ was applied in the analysis to identify the impact of taking part in the SL programme on the MPharm students. This framework was selected as it allows for analysis to establish links between SL and learning outcomes. The formation of these links was beneficial as most SL studies are diverse in design and this has led to a lack of consistent evidence for any outcome based studies.⁵

The Eyler and Giles framework has six domains (Personal and Interpersonal Development; Understanding and Applying Knowledge; Engagement, Curiosity and Reflective Practice; Critical Thinking; Perspective Transformation and Citizenship) and each was applied deductively to the data during analysis, following the work of Mc Menamin who used a similar approach when analysing outcomes of SL programmes.⁵

The domains are shown in Table 5.1, alongside examples of coding for each domain. For example, the domain ‘Personal and Interpersonal Development’ can be described as including self-awareness, communication skills and leadership skills.

Table 5.1 Domains of the Framework for Learning Outcomes for SL with descriptions

Domains	Description
Personal and Interpersonal Development	<ul style="list-style-type: none"> • Self-awareness • Communication skills • Leadership skills • Accept and tolerate diversity • Cultural competence • Connection and building relationships with others
Understanding and Applying Knowledge	<ul style="list-style-type: none"> • Understanding is more than acquisition of information or memorisation of theories • Enabled to apply learning to real world problems
Engagement, Curiosity and Reflective Practice	<ul style="list-style-type: none"> • Engaged in activities • Curiosity and need to know more • Remember material and use it to solve complex issues
Critical Thinking	<ul style="list-style-type: none"> • Face difficult community problems not easily understood or resolved • Increased ability to self-monitor and analyse complex situations
Perspective Transformation	<ul style="list-style-type: none"> • New lenses for the world • Moving from charity to active committed citizenship • Agents for social change
Citizenship	<ul style="list-style-type: none"> • Sense of social responsibility • Connection to the community • Importance of social justice • Commitment to service • Understanding social problems

The reflective records were analysed systematically using a modified framework method.²⁰² This method has seven stages. The first stage is transcription which was not needed for the reflective records. The second stage is familiarisation with the data and this was completed by reading through the reflective records to establish an overview of the content. The next stage is coding; as this was a deductive study the codes were provided by the Framework for Learning Outcomes for Service-learning. Stages four and five involve developing and applying an analytic framework; this is when the Framework

for Learning Outcomes for Service-learning was applied to the data. Stage six involves charting the data whereby each section of the framework is summarised. After coding the data against the Framework for Learning Outcomes for Service-learning, Kolb's theory of experiential learning (Figure 5.2) was applied to understand how the learning outcomes were achieved.¹³ Finally the data is interpreted and findings presented.²⁰²

5.3.3 Focus groups

As well as analysis of the reflective record, this study also used focus groups with the MPharm students to explore SL. Focus groups are a research method that allow for views and opinions of participants to be gathered and for in-depth insights to be gained surrounding a topic. Justification for the use of focus groups can be found in Section 3.2, where more detail regarding the strengths and limitations of the method are provided.

A qualitative approach was needed as it was important to allow for unexpected data or for further exploration and understanding of responses. Although quantitative methods have their advantages, in the context of SL they may fail to capture unanticipated data.²⁰³ Qualitative data also allows for understanding into the why and how; this was important in this context as it was key to understand how the SL programme delivered the learning outcomes achieved. Where previous studies have tried to overcome the lack of insight into the mechanisms and outcomes of SL by the addition of open-ended questions to questionnaires,^{203, 204} in the study reported in this chapter the use of a qualitative approach to data collection provides much richer data and understanding of these mechanisms.

As in other studies with an emphasis on experiential learning, focus groups were used to further explore the views of the MPharm students on the SL programme and to build

upon the findings arising from analysis of the reflective records.²⁰⁵⁻²⁰⁷ Focus groups are particularly useful when evaluating experiential learning as they promote self-reflection, a composite component of experiential learning.²⁰⁷

5.3.3.1 Recruitment and setting

As the focus was on how SL facilitates learning rather than evaluating the impact of delivering the MHP intervention, all third year MPharm students were eligible to be involved in the study, even if they had delivered a different HP intervention. MPharm students were first approached via an email advertising the study (Appendix 29), with a further reminder email sent after one week. EW also attended a teaching session attended by the third year cohort where she provided details of the study and invited those interested in taking part to contact her directly.

5.3.3.2 Data collection

Data collection took place in March 2020. Those students who volunteered to participate were randomly allocated to one of four focus groups by assigning each participant a number, selecting a number and assigning it to a focus group. Each focus group was facilitated by a moderator (EW) and a semi-structured topic guide was followed to support integrity between each focus group. The topic guide (see Appendix 30) consisted of five sections; a welcome including ground rules for the session; an opening question to encourage participation; key questions about the SL programme; ending questions which aimed to make sure the participants had chance to give their views and opinions; and the final section of the focus group was the conclusion to debrief and thank the participants. Compared to the focus groups used in Chapter 3,

these focus groups encouraged more participant interaction and discussion to explore the reflections of students on participating in the SL programme.

There were three activities within the key questions section of the focus groups. The first activity asked participants to work as a group to discuss and rank how much of an impact participating in the SL programme had upon various skills.¹⁶² Participants were provided with a set of skills printed on paper derived through analysis of the reflective records. Once they had read through the list they were asked to arrange the skills on a scale from what they considered had been least to most impacted by taking part in SL programme. Participants were also asked at this stage to write down any additional skills that were not included on the list. Participants were then asked probing questions about skills that had carried particular relevance to gather more in-depth views. Next, participants were introduced to the concept of SL. Participants were asked to reflect on this concept and to consider how it had contributed to their learning. Certain aspects of SL were used as prompts, for example *'Do you feel it's important for pharmacy students to engage with the community?'*

The final activity the participants were asked to complete was designed to capture suggestions for improvements to the SL programme. Participants were asked to either discuss these or write down their suggestions on post-it notes. Participants were given prompts if needed, of potential aspects of the programme to discuss such as training or the delivery of the intervention itself.

5.3.3.3 Analysis

The focus group transcripts were analysed using the framework method as described in Section 5.3.3.3.²⁰² Firstly the focus groups were transcribed and then each transcript was read in full to allow data familiarisation. Once key phrases had been identified and highlighted, the Theoretical Framework of Learning Outcomes for Service-learning was applied to the data.¹⁸ The data were again summarised before interpretation and the findings presented.^{172, 208, 209} Additionally for the focus groups, analysis was completed on the skill ranking activity that participants completed. This involved documenting the order the participants ranked each skill and assigning the skill a number from one (highest impact) to 17 (lowest impact) based upon the ranking.

Information is provided as to the composition of healthcare topics delivered by the students within each of the four focus group, as not all participants delivered the MHP intervention. Within the text participants are identified by a participant number, for example P1 refers to Participant 1. When presenting quotations from the transcripts, the focus group attended is also included, for example FG1. Where possible the topic delivered by the participant is also stated after the quotation. It was not possible to link the student name to the participant number during transcription, therefore some quotes cannot be linked to the topic delivered. This is the case for quotes from focus groups three and four as these that contained students who had delivered different HP topics.

5.3.3.4 Ethical considerations

There were a number of ethical issues that needed to be considered. These were confidentiality, gaining informed consent and handling data storage. Managing the risk of participant distress was also considered when designing the study.

To address the ethical issue of confidentiality, pseudonymisation of the focus group transcriptions was completed with personal data removed. In addition, participants in the focus groups were reminded that the content of the focus group discussions were confidential and should not be discussed outside of the focus group.

The ethical issue of informed consent was managed by providing participants with a participant information sheet (PIS) (Appendix 31) and consent form (Appendix 32) for the study which were distributed attached to recruitment emails. Students were given two weeks to return a consent form either electronically via email or as a hard copy left in a secure box in EW's office, thus allowing enough time for participants to read the information. As EW was employed as a member of staff on the MPharm degree programme at the time of the focus groups, it was emphasised to students that participation was voluntary and they were reassured that there was no pressure to attend the focus groups and that attendance (or non-attendance) would in no way impact on any assessment or marks awarded on the MPharm degree programme.

Participants received a £10 Amazon gift card as compensation for participating in the focus groups. This was felt to be sufficient to recognise the time given up to complete the study but not large enough to signify coercion.

To address the ethical issue of data handling and storage, encrypted Dictaphones were used to audio record the focus groups, with recordings subsequently saved to a secure

network drive and then deleted from the Dictaphones. Consent forms were saved on a secure network drive and will be kept for five years, and any original hard copies were destroyed.

To mitigate for the ethical risk of students becoming upset or distressed during the focus groups a distress policy (Appendix 33) was created. If a participant became distressed it was suggested that they could leave or take a break from the focus group. After this the participant would either continue with the focus group or leave. If the participant became distressed again the focus group would be stopped and the participant directed to speak with the PhD supervisors of EW.

All ethical issues were clearly described within the information provided to the MPharm students. Ethical approval for the study was granted by Research Ethics Committee at the UoM (2019-7753-11730) (Appendix 34).

5.4 Results of reflective records

5.4.1 Participants

In total, 69 MPharm students were involved in delivering the MHP intervention during the feasibility and main studies. Of these, 65 consented to their data being included in this study (94%). No participant characteristic data was captured.

5.4.2 Main findings of reflective records

Findings are presented in three sections relating to the following questions: *Did this activity help to develop any skills, knowledge and professional behaviours?; How will this*

learning benefit future practice? and *Are there any other skills that could be further developed for this area?* Responses to the first question (*Please describe the activity completed as part of the programme*) were not included in analysis as these data consisted of details of the content of the MHP intervention delivered rather than an account of learning.

Following importing of the data from the virtual learning environment, initially data were mapped on to the Framework for Learning Outcomes for Service-learning¹⁸ and the questions within the reflective records. This information was then tabulated to identify the extent to which there was evidence of commonality between the two and to identify which domains were achieved (see Table 5.1). For example, the domain 'Personal and Interpersonal Development' was found reflected within the data of all four questions within the reflective record. The most commonly seen domains were 'Personal and Interpersonal Development', 'Understanding and Applying Knowledge' and 'Engagement, Curiosity and Reflective Practice'.

Table 5.1 Summary of SL domains and reflective record themes

SL Domains	Themes from reflective records			
	Skill development	Knowledge development	Professional behaviour development	Benefits of learning to future practice
Personal and Interpersonal Development	X	X	X	X
Understanding and Applying Knowledge	X	X	X	X
Engagement, Curiosity and Reflective Practice	X	X	X	
Critical Thinking			X	
Perspective Transformation				X
Citizenship				X

5.4.2.1 Development of skills, knowledge and professional behaviours

This section presents the findings from the first question within the reflective report. Communication skills were the most commonly reported skill developed by learners. Although some participants provided limited data reflecting on this in detail, the majority were able to break the skill down and unpack the mechanisms supporting this. Participants described adapting their language and communication skills, ensuring the MHP intervention was delivered using terminology that was suitable for the age of the learners. Participants recognised that communicating with high school pupils was different to communicating with peers and that this adaption was important to facilitate the high school pupils' learning.

“This activity enabled me to develop my communication skills as the students were quite young and it was important to adapt to this and use language that they would understand, in addition to using an engaging approach...” P14

“It was important to adapt the information delivered in the workshop to our intended audience to help them feel empowered and confident and enable them to be inquisitive about this topic” P32

Recognising that mental health is a sensitive topic, participants reflected that they needed to be mindful of the language they used with high school pupils.

“This activity helped me to develop my communication skills as I was tasked with trying to convey knowledge around a sensitive topic in a way that would neither harm nor offend anybody, as well as encourage engagement and participation”

P5

“It was important that I was aware that discussing mental health was a sensitive topic therefore I had to be careful how I presented myself. The information had to be accurate and impartial, not offering judgement” P43

The need to avoid jargon was raised by many participants. When mapping this adaptation in communication skills to the Framework for Learning Outcomes for Service-learning, these skills relate to the domain for Personal and Interpersonal Development, particularly self-awareness and communication skills.¹⁸

“I had to make a strong emphasis on accessibility of the information for the audience. I realised that using complex language and specialist terminology would not keep children engaged and may even contribute to their confusion about mental health awareness, so I had to specifically tailor a lot of the information I presented” P34

“...jargon had to be converted to language that would be understood and the learning had to be communicated in a way that engaged the students and helped them to understand” P17

Participants reflected on how being involved in delivering teaching about mental health disorders and illnesses supported their own learning. This is a known benefit of PE, as it is thought to lead to an increase in knowledge relevant to the topic being taught.⁶⁷ When mapping this to the Framework for Learning Outcomes for Service-learning this is consistent with the domain for Understanding and Applying Knowledge, specifically applying learning to the real world.¹⁸

“I both expanded my own personal knowledge of mental health which will prove useful in later practice, and transferred this knowledge across to the class” P3

One participant linked both communication skill development and the knowledge they had gained from participation in the SL programme:

“This activity helped me develop my communication skills and my knowledge of the topic. It did so by allowing me the opportunity to teach younger students about the topic, whilst simultaneously teaching me about something I hadn’t delved too much into on my own” P26

Participants reflected on links between mental health and stigma, and how they had gained both knowledge of this and how to communicate this link effectively to the high school pupils, as well as learning the importance of delivering these messages with empathy and understanding. This development of empathy is important as it is essential to be able to demonstrate this to ensure a patient centred approach to consultations.¹⁰

“The content itself forced me to consider the stigma around mental health and ways to speak about it, I found the activity where the pupils had to write positive and negative ways mental health is spoken about rather poignant, it made me realise a lot of the language we use when discussing mental health is very negative and could be seen as offensive. It was interesting to see the pupils struggled to come up with any positive ways to talk about mental health” P28

“It helped me understand patients with mental health issues and to think and talk about mental health with sensitivity and empathy” P17

Participants also stated that their learning about MHP would enable them to provide signposting to support services in future.

“Working with the community in order to help them to take control over their health and to prevent rather than treat future problems is one of the key, broader roles of a pharmacist. This was the aim of the workshop, to help raise awareness of potential support and being aware of common presentations of these disorders so that prompt help is offered” P45

Professionalism was referenced by participants during the reflective records, both in terms of the need to be professional as a student representing the UoM, but also in terms of the SL providing a psychologically safe space in which to practise being a professional.²¹⁰

“We had to have a certain level of professionalism as we were in a professional environment working alongside teachers. We were representing the pharmacy course at the University of Manchester... Also we were acting as role models for the children so should behave in a respectful way” P34

This level of professionalism was discussed further, particularly when participants had needed to make decisions that were outside of the usual scope of the MPharm degree programme. For example if a high school pupil became upset during the intervention, the students responded within the boundaries of their capabilities. When mapping to the Framework for Learning Outcomes for Service-learning, the Critical Thinking domain particularly the ability to self-monitor and analyse complex situations is reflected here.¹⁸

“...the instance when a student got upset allowed me to understand my position and my capabilities. The fact that I alerted someone more capable than myself of the situation instead of trying to handle something I was not qualified for really helped me develop my professional discernment” P58

Participants reflected on how the SL programme had given them an opportunity for personal development, and more responsibility for their learning. This belongs to the domain for Engagement, Curiosity and Reflective Practice in the Framework for Learning Outcomes for Service-learning as it showed that the MPharm students were engaged in the activity.¹⁸

“This was a self-directed task, using pre-prepared materials. It was left to my group and I to decide how best to undertake it. Being trusted with such independence and essentially the freedom to make the experience as positive and

impactful was quite exciting to me and I respected the challenge. Knowing that the success of the project would be based on the effort I put in really made me think about the character strengths such as being motivated to ensure I made the most of the opportunity” P35

As the SL programme involved students being in an environment that was different to a higher education learning environment, participants often provided examples of how they had had to problem-solve while delivering the intervention. One element of problem-solving was if the participants faced a class of high school pupils that were not engaged, and how they learned to respond to this. When looking to the Framework for Learning Outcomes for Service-learning this again demonstrates the domain for Critical Thinking, particularly the ability to face difficult problems but also being able to self-monitor and analyse complex situations.¹⁸

“There were some instances where some of the students were a little disruptive during the presentation by holding their own conversations instead of listening to the presentation. As a result it has helped me to build a tolerance to certain attitudes I may come across in practice, I may be faced with a patient or co-worker who may not be so attentive” P17

Participants also acted autonomously and made decisions throughout the MHP intervention delivery.

“Another skill which was developed was time management as we had to change our presentation due to running short of time. We had to make decisions about what we felt was important for the pupils to know and what we felt could be missed” P51

When working as a team to deliver the MHP intervention some participants commented upon how poor time-management had occurred because of a lack of practice as a group before delivery, although this was not the case for all.

“I believe we could have kept within our time better if we had planned it out actively as a group, e.g. rehearsing before the presentation” P45

“Although I was quite organised for the workshop regarding viewing the presentation myself, I was not successful in meeting with the rest of my team members to run through the presentation. As there was a limited time from when the task was introduced to the time of delivery to the secondary school pupils, time-management and organisation should have been better” P36

Collaborative working was reported by participants as being developed through working in groups with other MPharm students, as was leadership. This maps to the domain Personal and Interpersonal Development within the Framework for Learning Outcomes for Service-learning, particularly connection and building relationships, as well as leadership skills.¹⁸ Making use of the different skills and resources within a team is an important aspect of development as an MPharm student.¹⁰

“We designated roles depending on each member’s willingness and prior knowledge. We worked together to assist each other during the activities and when asked a question we were unable to answer by ourselves, we enlisted the help of other team members” P43

“This activity helped me to develop my leadership skills as it involved leading the class and engaging them in activities... as well I developed my teamwork skills as

it was crucial we worked well as a team in order to professionally deliver the workshop” P15

5.4.2.2 Benefit of learning to future practice

When asked to reflect on benefits to future practice of taking part in the SL programme, most participants focussed upon the increase in their knowledge about mental health. This varied from gaining insight into mental health illnesses, such as signs and symptoms which would be needed for future clinical practice, but also the recognition that an increase in knowledge would influence how they approached consultations with patients. Service-learning allows for experimentation and this is a known element of experiential learning.¹³

“In my future practice I will be encountering a variety of people who may well be suffering from mental illness and from this experience I have learnt how to recognise signs and symptoms, as well as how to approach these” P19

“My improved understanding and awareness of mental health as well as the range of illnesses covered under this umbrella will be beneficial to my future practice. Everyone has mental health, including all of my future patients” P65

In particular, the development of empathy and understanding of mental health patients was a key feature of the reflective records. Participants reflected on how their understanding of the stigma surrounding mental health illness and disorders would contribute to the reduction of stigma as pharmacists have a responsibility to challenge misconceptions about mental health.

“It will allow me to firstly identify the stigma and negative language surrounding the topic of mental health and challenge it and overcome it with my patients in the future, by talking openly with positive language” P55

“I also learnt that some people, particularly young people, may have misconceptions that mental health illness is not as important or serious as physical illness... This will benefit my future practice as I will be mindful to encourage patient to be open about their mental health and try to reduce the stigma that exists around it” P1

Participants recognised that in their future careers as pharmacists they would be professionals and that members of the public would put their trust in them. Additionally, participants described how the development of the skills to communicate with children would help them when undertaking consultations with this age group in the future.

“...I will be able to explain it to children in ways that they will understand. This means they will feel more able to trust the pharmacist and healthcare team” P13

Some participants developed an understanding of the capabilities of high school pupils; delivering the MHP intervention seemed to alter their misconceptions that the pupils may be unable to understand complex issues surrounding mental health. Mapped to the Framework for Learning Outcomes for Service-learning this corresponds to the Perspective Transformation domain.¹⁸

“I will make any discussions I have with them [young people] interactive and allow them to actively be involved in decisions regarding their health and medication, as this experience has shown me that the young adults were able

and capable of thinking about the subject of mental health in a sensitive and mature way” P28

Involvement in the SL programme also provided insight into the need to be patient-centred in consultations when working as a pharmacist.

“In future practice I will be required to speak with people of different ages, gender, ethnicities and cultures, this learning had helped me understand that my communication style must therefore be adaptable” P21

However, despite the positive impact described by most participants, not all felt they had learned from the experience of SL and some would have preferred to design the intervention themselves.

“Since the presentation and supplementary interactive activities were pre-planned for this session, I would like to be able to prepare a presentation of a similar style myself. I would like to be able to design an age appropriate, visually pleasing presentation using language appropriate for my target audience” P54

5.5 Results of focus groups

5.5.1 Participants

Out of the 29 third year MPharm students who volunteered and consented to take part in the focus groups, 23 participated in one of four focus groups. Focus group one consisted of eight participants (one male, seven female participants). All participants in focus group one delivered the MHP intervention. Focus group two consisted of six participants (one male, five female participants). All participants in focus group two delivered the MHP intervention. Focus group three consisted of four participants and all were female. Two of the four participants delivered the MHP intervention and the other two delivered an alcohol awareness intervention. Focus group four consisted of five participants (three male, two female participants). Two of the five participants delivered an alcohol awareness intervention and the other three delivered an antibiotic resistance awareness intervention. Overall 78% of the participants in the focus groups had delivered the MHP intervention. No other data were recorded relating to participants' characteristics. The focus groups lasted one hour each and took place in a meeting room at the UoM during normal working hours.

5.5.2 Main findings of focus groups

Data were first mapped on to the Framework for Learning Outcomes for Service-learning¹⁸ with findings presented in relation to the following themes from the focus groups: the impact on learning from taking part in the SL programme; the views on SL and then any improvements that could be made to the SL programme. Table 5.2 shows each of the domains within the framework mapped against the themes found from the questions in the reflective report and against the main sections of the focus groups; this

allowed a visual representation of where the domains were achieved. For example, the domain ‘Understanding and Applying Knowledge’ was seen within all three of the main themes from the focus groups. The use of focus groups allowed for further insight to be gained into some of the domains found in the reflective records and was an advantage of using multiple methods to capture data.

Table 5.2 Summary of the domains, reflective record themes and focus group themes

Domains	Themes from reflective records				Themes from focus groups		
	Skill development	Knowledge development	Professional behaviour development	Benefits of learning to future practice	Impact upon skills	Overall views of service-learning	Improvements to service-learning
Personal and Interpersonal Development	X	X	X	X	X	X	
Understanding and Applying Knowledge	X	X	X	X	X	X	X
Engagement, Curiosity and Reflective Practice	X	X	X				X
Critical Thinking			X		X		
Perspective Transformation				X			
Citizenship				X		X	

5.5.2.1 The impact on learning of participation in the service-learning programme

Participants in each of the four focus groups were asked to rank a list of skills derived from the reflective records in terms of the impact of the SL programme on them. The results of this ranking exercise are shown in Table 5.3. As can be seen, across the four focus groups the greatest impact tended to be on audience appropriate communication, presentation and time-management. Consultation, person-centred care and leadership

were perceived as the least affected relatively although there was some variation in ranking between focus groups.

Table 5.3 Summary of skills by ranking for each focus group

Ranking (most to least affected)	Skills			
	Focus Group 1	Focus Group 2	Focus Group 3	Focus Group 4
1	Audience appropriate communication	Presentation	Communication with different age groups	Presentation
2	Not using jargon	Understanding and delivering topic	Audience appropriate communication	Time-management
3	Time-management	Teamwork	Communication	Communication
4	Professionalism	Audience appropriate communication	Not using jargon	Teamwork
5	Public speaking	Communication with different age groups	Understanding and delivering topic	Adaptation
6	Understanding and delivering topic	Time-management	Adaptation	Public speaking
7	Communication	Adaptation	Handling sensitive information	Professionalism
8	Teamwork	Not using jargon	Professionalism	Organisation
9	Presentation	Handling sensitive information	Public speaking	Communication with different age groups
10	Adaptation	Professionalism	Presentation	Audience appropriate communication
11	Communication with different age groups	Leadership	Time-management	Not using jargon
12	Active listening	Organisation	Active listening	Understanding and delivering topic
13	Handling sensitive information	Communication	Teamwork	Active listening
14	Person-centred care	Public speaking	Leadership	Leadership
15	Organisation	Active listening	Person-centred care	Consultation
16	Leadership	Consultation	Organisation	Person-centred care
17	Consultation	Person-centred care	Consultation	Handling sensitive information

Alongside the ranking exercise, participants were prompted to expand on their rationale for the ranking. In this context, the use of language was discussed, with participants recognising that the SL programme required adaptation and change in language. This was discussed mainly in terms of the age of the audience, but also in relation to knowledge as it was recognised that as pharmacy students they may know more about

a subject. By explaining concepts to the high school pupils, MPharm students were able to deepen their own learning and understanding further, a recognised benefit of PE for peer educators.⁶⁷ Similarly to the results from the reflective records this adaptation mapped to the domain of Personal and Interpersonal Development when using the Framework for Learning Outcomes for Service-learning, particularly the development of communication skills.¹⁸

“I think like for high schools and having to talk to younger people, you have to actually understand what you are saying and you have to reword it and make it simple and actually get to the core basis of the information. So you can’t hide behind a textbook definition of something, you have to actually understand it. You have to adapt it to the people you are trying to communicate to” FG1,P7 (MHP)

“I think presenting to that type of age group instead of presenting to our peers we had to like understand it at higher depth, like in regards to jargon so we would probably presume that our peers know what words mean but like with words in mental health we would probably have to explain so I feel like with learning we understood more” FG2, P10 (MHP)

Students were able to reflect upon how the SL programme had developed their organisational and time management skills. Experience of the SL programme allowed students to reflect upon their learning and connect the SL experience with learning outcomes.¹³

“I mean it’s good to be put in new situations I feel it’s a good experience, you learn about yourself, how you are and more organisational sort of skills rather than academic skills where you learn off slides” FG4, P19

“And about yourself as well, your own skills, like am I good at this. And organising am I good at organising cause the only sort of organisation for a lecture would be like pre-reading...” FG3, P18

As in the reflective records the fact that participants seemingly learned about MHP through teaching high school pupils was apparent.⁶⁷ When applying the Framework for Learning Outcomes for Service-learning the domain of Understanding and Applying Knowledge was relevant, particularly that understanding is more than an acquisition of information and that this learning can be applied to the real world.¹⁸

“I think if you have to like sort of like present something then it makes you want to learn it more because you don’t want to be at the front and not know what you’re talking about...” FG1, P5 (MHP)

“I think you would probably understand it better if you have to go and teach other people because you ensure that you have a good understanding of it prior to delivering it” FG2, P13 (MHP)

5.5.2.2 Views on service-learning

Focus group participants compared the SL programme with other learning on the MPharm degree programme.

“I think it helps us put into practice our leaning as well cause if it’s just off a lecture then you are cramming revision in before the exam whereas this you need like time to digest the information and then go out and it will help as well for like our professional development in terms of later on when we finish” FG2, P13 (MHP)

“I feel that it’s more of a hands on type of learning, so ideas, principles and all these types of things stick better in our minds if we learn in that way versus if we memorise using the more traditional way of teaching” FG3, P18

Participants also discussed how the learning was active; by providing them with hands on experience they could then reflect upon the experience and further the learning process.¹³

“I think it’s a good thing that you are put in a new environment rather than being in lectures, workshops you know all day, that’s more passive. You are relying on someone else to provide the information whereas over here you are the one that is actively giving the information out, and in the process you are also learning” FG4, P19

The SL programme was described as a way of learning that did not necessarily feel like learning by one participant, yet the experience facilitated application of knowledge and skills.

“...it feels less like learning and it’s kind of like just doing a presentation cause its more engaging than just having to know facts, like you can interact with your

team members and its less like I have to get this answer correct. So it was learning but it wasn't the pressure of it" FG1, P6 (MHP)

Apprehension before delivering the intervention was discussed at length by participants, who reported feeling “*unsure*” and “*nervous*” at the thought of going into a high school, mainly due to their own experiences of being high school students themselves but also because of the need to give a presentation. All participants stated that once they had started to deliver the intervention and particularly once it had finished they had much more positive feelings towards the SL programme and felt rewarded through their interactions with the high school pupils. This was another example of the Personal and Interpersonal Development domain within the Framework for Learning Outcomes for Service-learning, focussing upon connection and building relationships with others.¹⁸

“I was a bit nervous, but then when I was there the kids seemed really engaged as well, asked loads of questions... So it was quite enjoyable that they actually got something from it as well” FG4, P20

“I think it's the response that the students gave, they seemed really positive and before that I was thinking they might not be as interested...I think the interactive activities helped as well. And after that I kind of looked at it much more positively than going into it” FG2, P10 (MHP)

It is known that through reflection students can begin to link the learning that they have experienced with future opportunities.^{13, 211} Participants recognised their future role as pharmacists will involve interaction and engagement with local communities and connected delivering the intervention and their future careers. This was highlighted as

an aspect of their professional career that was not practised elsewhere on the MPharm degree programme. When mapping to the Framework for Learning Outcomes for Service-learning this community connection is part of the domain of Citizenship.¹⁸

“As pharmacists we have to do health promotion and this is kind of a snapshot of that? Even though it was a classroom of students, also it was in a closed environment, it kind of gave us an opportunity to interact with the public and especially children that we don’t necessarily get to interact with much and that gave us the communication skills as well. I think it would be really useful in the future” FG2, P13 (MHP)

“I think it’s like an awareness because having students engage with you and seeing who that information is going out to rather than just learning it from a board kind of reiterates why we need to know this information, and why you need to know your stuff and know what information you are putting out there, especially for such an important topic” FG1, P2 (MHP)

This commitment to the community was further discussed with one participant commenting that:

“I think it’s absolutely important because ultimately that’s the point of being a pharmacist, or any healthcare professional or related course, you are there for the community aren’t you?” FG4, P19

Focus group participants found that they were able to try out their professional identity as pharmacists, whilst in a safe space within the SL programme.²¹⁰ They were treated as

professionals by the school and it was important that they respected this with their behaviour.

“Obviously you are in front of other teachers and the kids and you want to act as role models in a sense and not paint the university in a bad light” FG3, P16

“And as well we introduced ourselves as pharmacy students and the teacher was like these are going to be our future pharmacists so it was important we came across as professional and like we understood what we were talking about” FG3, P15

Health promotion itself was considered as the participants acknowledged that although they had learnt about HP throughout the MPharm, it is an important aspect of the profession that needs practise. This led to further discussion of how the SL programme had allowed them to practise HP. It is expected that MPharm graduates effectively promote healthy lifestyles and participate in the promotion and protection of public health¹⁰ and this opportunity to practise within a safe environment was valued.

“I think ‘cause pharmacy is moving away from just like drugs...there is such a big emphasis now not just from the NHS but worldwide so it is important to have that skill set to do health promotion... so it is something you would have to do in your career” FG1, P7 (MHP)

Participants described a potential knowledge gap between healthcare professionals and communities and recognised their role in sharing knowledge of HP within the community.

“So a lot of the kids didn’t know what antibiotic resistance was, they didn’t know it was a thing. And even the teacher came over to us and she said she had learnt something new from it so yeh I think it was really important” FG4, P23

Support provided during the SL programme was felt to be sufficient and allowed for the development of a safe learning environment. Participants discussed this support in terms of the training provided, including the fact that the activities for the intervention and the short guide had been developed for them.

“I felt that we were supported enough, like we had a good script to follow. It was clear what was going to happen and we had a session where we went through the slides as well” FG1, P8 (MHP)

“No I definitely felt that we were supported, it was the print out that I thought was the most helpful and then it would have the stuff you could talk about and little prompts and things” FG2, P11 (MHP)

5.5.2.3 Improvements to the service-learning programme

While participants were in general positive about the SL programme, several suggestions for improvements were made. Participants felt it would have been beneficial to have a more thorough understanding of the aims of the SL programme. Emphasis could have been given to the phrase ‘service-learning’; by explaining the origins of the pedagogy and specifically emphasising the word ‘learning’ the participants felt this would be clearer that this was a chance for them to learn new skills and information. When comparing adult learning and child learning, adults are generally more motivated to learn when they know *why* they are learning.²¹²

“...but if it was kind of marketed to us as a learning opportunity then I think it would have had a bigger impact on us... I think that if we spoke about it like service-learning then that could be something that people talk about in interviews and things. So like oh on our course we have this service-learning unit and we are able to give back to the community...” FG2, P13 (MHP)

“I think it does because when we first like got told about it, it kind of seemed like a volunteering thing? And it’s part of the course but you’re maybe not getting anything from it. And you’re doing something for the community or the school. If you say like service-learning then you stop and think like what did I learn from it?” FG1, P7 (MHP)

5.6 Main findings

This chapter presented findings from two data sets exploring the impact of delivering a HP intervention on third year MPharm students as service-learners. Reflective records and focus groups were used to gain insight into MPharm students’ perceptions of the SL programme; similar approaches have also been used by other studies evaluating SL programmes.^{37, 200, 205-207, 213} Findings were triangulated by using focus groups to expand upon and deepen those based on the reflective records; both datasets provided similar evidence of impact on skills and development. The results from the reflective records and the focus groups were mapped against the Framework for Learning Outcomes for Service-learning¹⁸ during the analysis process. This was completed to establish if the SL programme at the UoM achieved similar learning outcomes for the MPharm students as the overall learning outcomes that are described in the framework domains.

The ILOs for the SL programme at the UoM were: to develop communication skills, to develop professional skills, to gain experience in community engagement and to deliver preventative HP advice to a community group. Based on the findings presented in this chapter, these learning outcomes appear to have been met. The most widely reported impacts of the SL programme were: the development of communication skills including adaptation and language use, the development of empathy and understanding towards mental health and skill development such as collaboration, problem-solving and working within professional limits. These impacts are relevant when compared to the new Standards for the Initial Education and Training of Pharmacists as person-centred care and professional practice take a central position.¹⁰ When mapping these results to the Framework for Learning Outcomes for Service-learning the results were largely consistent with the six domains captured but to varying degrees.¹⁸

Kolb's experiential learning model describes how students learn through experience and evidence of this learning was found in the accounts captured by these studies.¹³ When exploring the SL programme further with the participants of the focus groups the style of learning was discussed, with participants describing how the practical, applied style of learning was useful and a change from the traditional teaching methods used elsewhere on the MPharm degree programme. Participants in particular reported how they had learned through teaching high school pupils, a known consequence of PE.⁶⁷

5.7 Conclusion

Overall based on analysis of the qualitative data presented in this chapter, it appears that participating in the SL programme had a positive impact on third year MPharm students with all ILOs of the SL programme being met. This impact is largely consistent with the literature on learning outcomes for SL.¹⁸ Students were most likely to report changes in skills and behaviours and the SL programme provided a safe space in which to develop these and practice for their future careers as pharmacists.

Chapter 6. Discussion

6.1 Introduction

The overall aim of this PhD programme of work was to develop and evaluate a peer-led, theory-informed MHP intervention delivered as part of a SL initiative. To do this, the MRC Framework for the development and evaluation of complex interventions was used as a guide to inform the programme of work (see Table 1.1). Firstly, in Chapter 2, a scoping review was completed to establish evidence of the impact of school-based MHP interventions and to identify the study design, theoretical framework, compulsory participation, duration, sample size, intervention targets, intervention components, intervention provider, intervention outcome measures, main findings (including significant results and gender differences) and evaluation methods used previously. Next, the findings of the review were applied to design the MHP intervention, which was then assessed for acceptability using focus groups with high school pupils in a simulation of implementation of the intervention (Chapter 3). Once the MHP intervention design had been finalised, a feasibility and main study were conducted, with results relating to the high school pupils presented in Chapter 4. Findings regarding the impact on MPharm students as service-learners were presented in Chapter 5.

This chapter presents the findings from each chapter and discusses the programme of work in the context of the literature. Firstly a summary of the findings from Chapters 2, 3, 4 and 5 are presented. Next, a discussion of three main areas related to the programme of work is presented: the use of the MRC framework; the impact upon high school pupils; and the impact upon MPharm students. Reflection upon the strengths and weaknesses of the programme of work is provided following this. Implications for

undergraduate pharmacy education as well as for collaborations between higher education providers and high schools are then presented, followed by the directions for future research. The chapter closes with a brief conclusion.

6.2 Chapter summaries

6.2.1 Chapter 2

Based on data extracted from 24 MHP intervention studies about study design, theoretical framework, compulsory participation, duration, sample size, intervention targets, intervention components, intervention provider, intervention outcome measures, main findings (including significant results and gender differences) and evaluation methods, the scoping review identified that school-based MHP interventions are effective at having an impact upon high school populations. Although there was a lack of consistency in approaches used by the studies within the scoping review, it was possible to identify key principles within the literature associated with successful MHP interventions. The majority of studies analysed by the scoping review did not explicitly ground an intervention in a theory.

The scoping review found that many interventions covered more than one target but there was no combination of targets used more commonly than others. The most common targets included stigma and stereotypes, help-seeking and types of mental health illness and risk factors/signs and symptoms. A multi-component intervention composed of interactive components such as group discussions, videos and worksheets were largely found to have a positive impact in the literature. However, an important limitation of the evidence-base reviewed was that it was not possible to determine

which outcomes were associated with which components. This was due to lack of reporting within the studies. It was difficult to compare study design for superiority due to such differences in approach and outcomes measures, a common problem in intervention studies.¹⁷⁵ The majority of the studies used quantitative methods to collect pre- and post-intervention data from participants using questionnaires.

The MHP intervention was then designed using four components. The first was a Prezi presentation; this was included as the scoping review found presentations were often successfully used within MHP interventions.^{101, 103, 116, 117, 122, 123, 131} Additionally Prezi presentations have been found to be more engaging than standard presentations.¹³⁸ The next component was the Acceptable and Unacceptable Words Activity, included as group activities and games have been used successfully by previous interventions^{100-104, 114, 116, 118, 119, 122, 123, 125, 128, 129, 131} and the use of stigmatised language is known to have a negative effect upon young people seeking help for mental health disorders and illnesses.¹⁴⁰ The third component was the Celebrity Photograph Matching Activity; this was again included as group activities and games have been used successfully by previous interventions^{100-104, 114, 116, 118, 119, 122, 123, 125, 128, 129, 131} but also because celebrity culture can influence the public's mental health attitudes.³² The final component was a video which was included as many interventions use video components.^{100, 103, 114-119, 129, 131, 133} A draft logic model was produced to illustrate hypothesised relationships between intervention components, evaluation measures and intended outcomes, as well as the inputs and outputs of the intervention.¹⁴⁶

6.2.2 Chapter 3

This chapter presented findings from acceptability testing of the proposed MHP intervention. Two aspects of acceptability - affective attitude and perceived effectiveness¹⁶⁶ - were explored during a simulation of the intervention, with focus groups of stakeholders used to capture views of proposed intervention components. The main findings from this chapter were that all four components (Prezi presentation, the Unacceptable and Acceptable Words Activity, the Celebrity Photograph Matching Activity and Video) were acceptable. Based on data collected during feasibility testing the decision was made at this point to include the Stand Up Kid video as it was aimed at young people which was relevant for the MHP intervention in the PhD programme of work; this video was also found to be more acceptable to the stakeholders. Following acceptability testing, minor changes were made to the intervention design and the underpinning logic model was also refined as well as components and outcomes of the intervention finalised (See Figure 3.2).

6.2.3 Chapter 4

This chapter presented a feasibility and subsequent main study conducted to establish the impact on the high school pupils of participating in the MHP intervention. A SAQ was used to collect both cross-sectional and longitudinal data at three time points (pre-intervention, one week post-intervention and three months post-intervention). Analysis of feasibility study data suggested that the intervention was capable of having a significant impact upon knowledge and attitudes about mental health, stigma awareness and action, personal help-seeking and social distance, and that in the main the impact was equivalent for both male and female high school pupils. The most important reason for the feasibility testing was to identify any problems before the main

study; missing data was found to be a problem that could threaten the validity of the evaluation. Therefore minor changes were made to the evaluation design after the feasibility study (see Section 4.5) before the main study. Changes were also made at this stage to the methods to include qualitative data collection. The results of the main study showed a positive but insignificant impact upon knowledge and attitudes about mental health and public stigma, as well as showing a positive impact on the language used when describing mental health.

6.2.4 Chapter 5

This chapter presented findings related to the impact on MPharm students of delivering the MHP intervention as part of a SL programme at the UoM. Reflective records and focus groups were used to gather data, with the focus groups used to further explore in depth the impact upon the MPharm students following analysis of the reflective records. Findings suggest that the impact upon MPharm students were in particular related to development of communication skills; the development of empathy and understanding towards mental health; and skill development including working within professional limits and collaboration. Findings further suggested that SL is an effective method for facilitating meeting the ILOs which were: to develop communication skills, to develop professional skills, to gain experience in community engagement and to deliver preventative HP advice to a community group.

6.3 Main discussion

The following section discusses three aspects of the PhD programme of work presented in this thesis. Firstly, how the use of the MRC Framework to develop and evaluate the MHP intervention provided a robust methodological approach to guide the programme of work, including the production of a logic model, acceptability testing and a feasibility study. Secondly, the impact of the MHP intervention upon the high school pupils in terms of mental health awareness with data collected using a SAQ is discussed, as well as PE as a mechanism to produce this change. Finally, the impact of the MHP intervention on the MPharm students will be considered based on data collected via reflective records and focus groups, with a focus upon professional skill and knowledge development, using SL as the pedagogical lens.

6.3.1 Using the Medical Research Council Framework to develop and evaluate the MHP intervention

The use of the MRC Framework allowed a methodologically robust approach to be adopted in the PhD programme of work as it provides a validated process for guiding intervention design and evaluation. The framework emphasises in particular the Development Phase of intervention design and highlights the need to complete acceptability testing with stakeholders. The Development Phase is particularly important to ensure intervention design is closely aligned with intended outcomes.¹⁰⁵ This was replicated within the PhD programme of work and enabled an evidence-based intervention to be designed and tested with key stakeholders to try to ensure it had the greatest impact. This section presents how the MRC Framework was utilised for the PhD programme of work alongside benefits and limitations found, focussing upon the three stages of the Development Phase (identifying the evidence base, modelling and

identifying appropriate theory) as this is the phase that is highlighted as particularly important by the MRC.

Identifying the evidence base

The results for the identifying the evidence base stage were mainly determined and presented in the scoping review (Chapter 2). The MRC suggests that if a high-quality systematic review is not available, then researchers should conduct a review themselves. Although the MRC describes the use of systematic reviews in identifying the evidence base, scoping reviews are a commonly used method to gather information about a particular area and this method was adopted in this study to allow for a large breadth of literature to be captured and examined as little was known about the subject area.⁹²⁻⁹⁴ This is within the guidelines of the MRC Framework as it advocates for approaches to be flexible and adaptable and recognises that each intervention will have distinct and particular processes. This PhD programme of work presented the results of a novel scoping review focussing upon school-based MHP interventions; these results were used to guide the initial content of the MHP intervention and was successful in completing this stage of the MRC Framework.

Modelling

The Modelling Stage of the MRC Framework is when the design of the intervention is established, prior to feasibility testing. The MRC recommends that primary research is carried out with key stakeholders during modelling, although little detail is provided regarding what this should entail. Given focus groups have been used previously to gather views and opinions during intervention design,^{149, 151} for the MHP intervention, the modelling stage involved focus groups with the high school pupils (stakeholders).

The focus groups allowed for a simulation of the intervention to be tested. The results led to refinement of the design of the intervention, ensuring development was thorough and organised.

Identifying appropriate theory

The MRC advocates that theory is used to provide a rationale for decisions made during intervention development. However, it does not provide further practical instruction on how to achieve this. This ambiguity is a weakness of the MRC Framework.¹⁰⁶ The scoping review reported in Chapter 2 was unable to identify if using a theory was more likely to produce an effective intervention. However, the use of theory can contribute to the hypothesised underpinning of how an intervention may work mechanically by providing framework and context.²¹⁴ With this in mind, as well as the fact that the MRC recommends the use of theory, a theory-informed approach was taken during the design of the MHP intervention. Relevant learning theories were identified at the outset. To support this a logic model was produced. Logic models are used to provide diagrammatical representation of intervention components and link these to potential outcomes; they are not in themselves a theory. However, behind logic models is the theory of change, or how it is proposed an intervention may cause the outcomes shown in the logic model. Additionally experiential learning theory was applied throughout the development of the MHP intervention, whilst utilising SL and PE as pedagogical methods.^{4, 13}

Overall the use of the MRC Framework is clearly a strength of this PhD programme of work. The programme of work used a scoping review to gather evidence before the design of the MHP intervention, this intervention was then acceptability tested before

a feasibility study was completed. This level of detail and rigour ensured that any results found during the main study could be considered reliable.

6.3.2 The impact of a mental health promotion intervention on high school pupils

The results from both the feasibility study and the main study were largely positive, indicating that the MHP intervention had been successful in having an impact on its intended targets, consistent with other studies set in environments where learning is encouraged such as high schools.^{56, 215} The MHP intervention in this PhD programme of work successfully used PE, a method of teaching and learning that enables pupils to learn from those of a similar status to themselves rather than from traditional figures such as teachers, to achieve these results. Peer education is thought to be effective in HP interventions as it gives peer students, in this case the high school pupils, the opportunity to learn about health topics in a more informal environment whilst providing them with the information to make informed decisions.²¹⁶ As the peer educators (the MPharm students) are closer in status to the peer student it is thought that this may encourage the peer learners to ask questions and engage more so than they might have done with their class teachers.²¹⁶

Considering the results of analysis of the SAQ data, the first section captured the effect upon the students' knowledge and attitudes about mental health. This is a common target for MHP interventions.^{147, 217} Within this study all four components aimed to target the students' knowledge and attitudes about mental health (Prezi presentation, Acceptable and Unacceptable Words Activity, Celebrity Photograph Matching Activity and the video). Presentations, videos, group exercises and hand-outs were found to be

commonly used by other MHP interventions to target knowledge and attitudes about mental health during the scoping review (Chapter 2), however the length of these interventions varies from 2 hours to 12 weeks.^{101, 103, 114-119, 122, 123, 128, 129, 131} The measures used to evaluate these interventions also varied, so direct comparison between studies was not possible. For the feasibility study there was a statistically significant effect shown from T1 to T2 using a paired t-test but no significant effect for time when using ANOVA across the three time points. For the main study there were no statistically significant effects. It has been reported that in general, female adolescents have a higher knowledge of mental health than males however there was no significant differences seen between male and female participants for this measure in the PhD programme of work.²¹⁸⁻²²⁰ The study by Painter *et al.* in which the measure was originally used had similar results. Painter *et al.*'s study also had a different study population so any differences seen between the results of their study and the PhD programme of work need to take this into consideration. Differences found may be due to a number of factors such as prior knowledge or education, or simply the differences in the intervention itself. The intervention delivered by Painter *et al.* was three hours long (three sessions each of one hour duration) compared to the single session delivered as part of this PhD programme of work, although it contained similar components to teach about knowledge and attitudes about mental health (that is, a presentation and handouts). Painter *et al.*'s study was unable to show significant changes in scores post-intervention.¹⁸⁶

As well as investigating impact on knowledge and attitudes about mental health, the evaluation also considered whether the MHP intervention successfully targeted stigma. Stigma is a known barrier to individuals receiving help and care for mental health

disorders and illness. Within this study two components aimed to target this (Acceptable and Unacceptable Words Activity and Celebrity Photograph Matching Activity). Group exercises, games and hand-outs were commonly used to target stigma within MHP interventions found in the scoping review.^{101, 113, 114, 116, 129} The stigma scale used in the feasibility study looked at the awareness of the high school pupils of stigma and a statistically significant positive effect was seen from T1 to T3 when analysed using paired t-tests and a significant effect for time across all three time points was seen using ANOVA. When looking at the Painter *et al* study, they were again unable to show significant changes in scores post-intervention.¹⁸⁶ However the initial scores were higher than in the PhD programme of work study which indicates the participants of their study may have had a higher baseline level; again it is unknown the reasons behind these differences due to the different study populations. For the main study, a different scale was used and there was no statistically significant impact seen. As a different scale was used it was not possible to compare the results from the feasibility and the main study however the findings from both did show a positive, if not significant, impact. When looking at the results by gender there was no significant difference seen; other studies have found that generally female adolescents are more aware and conscious of stigma surrounding mental health.²²⁰ This is in line with the results from the scoping review in Chapter 2 where it was noted that female participants were more likely to have more favourable results in terms of stereotypical attitudes and stigmatised views. The reasons behind this are unknown, however it is thought that as females generally have a higher emotional intuition at this age that this may contribute to this understanding.²²⁰

Personal help-seeking was targeted using the Prezi presentation component of the MHP intervention. Within the scoping review, studies used a combination of presentations,

group exercises and games to target help-seeking.^{101, 103, 114, 116, 118, 122} During the feasibility study a statistically significant positive effect was found from T1 to T2, as well as a significant large effect size for time when ANOVA was conducted. It is known that young people are often reluctant to seek help about their mental health so that the MHP intervention was able to have an impact is promising.²²¹ Painter *et al's* study was again unable to show significant changes in scores post-intervention,¹⁸⁶ however the scores were better than in the PhD programme of work study which indicates the participants of their study may have had a higher baseline level. It is important to remember again the difference in study population. When looking at the results disaggregated by gender for the PhD programme of work study, there was no significant difference seen between male and female participants.

Another target for the MHP intervention was social distance. Social distance is a part of stigma and is the likelihood to distance from someone with a mental health illness or disorder. Many studies have attempted to have an impact upon social distance with varying success.^{135, 222-224} Social distance was targeted using the Prezi presentation component of the MHP intervention. Within the scoping review, it was identified that studies used a combination of presentations, group exercises and games to target social distance.^{117, 119, 124} During the feasibility study statistically significant positive effect was found from T1 to T2 and T2 to T3, as well as a significant large effect size for time when ANOVA was conducted. Painter *et al's* study was again unable to show significant changes in scores post-intervention,¹⁸⁶ however the scores were greater than in the PhD programme of work study which indicates again that the participants of their study may have had a higher baseline level. The reasons behind this higher baseline level are unknown. When comparing the genders directly, the only significant difference was at

T2, where males scored more favourably showing a reduced likelihood to distance from someone with a mental health disorder or illness.

Specifically looking at gender, although this was not the main focus of the study, it is worth considering some differences between the male, female and the 'other' gender categories. It is possible to discuss the descriptive statistics for the feasibility study but there were no participants who selected 'other' during the main study. Statistical tests were not able to be performed due to the small number of participants describing their gender as 'other' (three participants at T1 and T3, four participants at T2). Firstly looking at the knowledge and attitudes scale of the questionnaire, at T1 male participants scored the highest indicating a higher knowledge of mental health and a more positive attitude and the 'other' category scored the lowest. By T3 female participants had the highest score and the male category the lowest; female and 'other' participants' scores had increased but males had decreased. When looking at the stigma scale, a lower score indicated a higher level of stigma awareness. At T1, female participants scored the lowest and 'other' participants scored the highest, by T3 'other' participants scored the lowest and male participants scored the highest. Looking at the help-seeking scale where a higher score indicated a higher level of personal help-seeking at T1 males scored the highest and 'other' participants scored the lowest. At T3 these remained the same. Finally for the social distance scale where a lower score indicated a decreased likelihood to socially distance from someone with a MH illness or disorder, male participants scored the lowest and 'other' participants scored the highest. At T3 female participants scored the lowest and male participants the highest, although all had decreased from baseline. Overall, using basic descriptive analysis 'other' participants scored most poorly across all scales pre-intervention at T1, however at T3 there was much more variation

as changes between scores were seen for all gender categories. Although beyond the scope of the PhD programme of work, it would be an interesting future research project to further analyse the differences between gender groups and to evaluate if certain groups, such as the 'other' category, need additional and targeted MHP input.

It is known that young people use negative or inappropriate language to describe mental health, or those who have a mental health disorder or illness.^{119, 129, 139} This language may come from a lack of understanding, leading to stigmatised attitudes therefore it is important to understand that simply discussing language alone would not lead to changes. During this study it was found that the use of sensitive language to describe mental health increased from T1 to T3, and the use of labels or negative language decreased. This is a positive outcome of the MHP intervention, particularly as the component the Unacceptable and Acceptable Words Activity had a direct focus on language.

Overall, the evaluation of the MHP intervention found that PE was a successful method for positively impacted on high school pupils in relation to knowledge and attitudes about mental health, public stigma and attitudes towards stigma, help-seeking, social distance and language used to describe mental health. Although this impact was not always sustained this is an important finding from a one-off, hour-long intervention and indicates the usefulness of such interventions. The fact that the MHP intervention was successful at achieving positive results whilst using a relatively resource light, yet structured and thorough, approach should be used as inspiration encouragement for future MHP intervention designers.

6.3.3 The impact of a mental health promotion intervention upon MPharm students

As well as investigating the impact on those receiving the intervention, this PhD programme of work also explored the impact of delivering the intervention on third year MPharm students as service-learners. The SL programme was successfully implemented and met the ILOs which were: to gain experience in community engagement; to deliver preventative HP advice to a community group; to develop communication skills; and to develop professional skills.

The communication skills developed by students largely centred on adaptation of approach and language due to their target audience, and an increase in empathy for patients with mental health illnesses or disorders was described by many students. These are areas stated within the new Standards for the Initial Education and Training of Pharmacists (details in Section 1.3.1)¹⁰ and are also recognised outcomes of SL. Although the SL programme was initiated before the new standards were released, they have been used here to demonstrate the relevance of the SL programme within current and future pharmacy education. Another outcome included in the new education and training standards is that students are able to work within the limits of their own knowledge, a professional attribute that is critical to practice as a pharmacist. This is a key aspect of experiential learning theory, as when students have experiences and are given the opportunity to reflect this allows them to learn about their own strengths and weaknesses.¹³ By reflecting on the experience of the MHP intervention, this allowed the MPharm students to think about what had gone well but also to critique their capabilities. The students were able to successfully demonstrate this process during the

SL programme, as well as other professional skills such as collaborative working and organisational skills. The fact that the students were able to develop these professional skills through participation in the SL programme is an asset to the MPharm degree programme at UoM; it is a unique opportunity for students to actively interact with both the community and their peers.

One of the common themes discussed by the MPharm students was how the SL programme differed from their learning in other areas of the MPharm. They described the learning as “*active*” and “*hands-on*”; key features of experiential learning. The focus groups in particular provide insight into the mechanisms involved in experiential learning. Students discussed developing skills and knowledge thorough participating in a concrete experience, in this case through delivering a MHP intervention as part of the SL programme, whilst being allowed to develop their professional identify in a safe space.¹³

When looking more widely within the literature at learning outcomes for SL programmes, these were generally achieved in the SL programme in this programme of work. Eyler and Giles describe six overarching learning outcomes: personal and interpersonal development; understanding and applying knowledge; engagement, curiosity and reflective practice; critical thinking; perspective transformation and citizenship.¹⁸ The SL programme at UoM demonstrated an impact on all six domains (Table 5.2) although the extent to which these domains were influenced by the SL programme varied, with personal and interpersonal development outcomes featuring most often. Perspective transformation is known to be uncommon in SL, and when seen is usually only if the SL programme is long-term and intensive.¹⁸ As the SL programme

involved delivery of a one-off intervention, this domain was unlikely to have been found frequently within this study. Another factor may be that the methods of data collection did not capture all the learning outcomes experienced by the MPharm students, consequently this potential data was not mapped against the domains. For instance the reflective report consisted of prescriptive questions the students needed to answer, which were designed to offer guidance about how to structure the reflection, but which may have inadvertently restricted the data collected.

Service-learning is a type of experiential learning that works by giving students the opportunity to participate in an activity, before reflecting on their experience and learning from it and applying this learning in future contexts.¹⁸ The SL programme within the MPharm degree programme at the UoM successfully provided students with these opportunities for active, self-directed learning in a safe environment which was demonstrated by the positive impact upon skills and knowledge described by students.

6.4 Strengths and limitations to research

6.4.1 Strengths

One of the central strengths of this PhD programme of work is its novelty. To EW's knowledge this is the first example of a SL programme within an MPharm degree programme in the UK. A recent survey of experiential learning within MPharm degree programmes in the UK showed that the locations for experiential learning were mainly community pharmacies, hospitals, primary care sites and industry.³⁶ Other sites such as outpatient clinics, prisons, charities, and hospices were offered on an optional basis to smaller groups of students. These are all clinical placements, offering benefits to the MPharm students but not the wider community directly. This is also the first example,

to EW's knowledge, of MPharm students teaching MHP to members of the community as part of a larger scale, compulsory unit. The SL programme is both a unique and a beneficial addition to the MPharm degree programme at UoM.

Another strength was that the MRC Framework for the development and evaluation of complex interventions was used, and each phase of the Framework was mapped on to the PhD programme of work. This meant that the research had a clear methodology, with a strong focus on development and feasibility testing before final implementation, as well as being theory-informed. For an intervention to be complex, it must have multiple interacting components, involve multiple target groups and have a number of potential outcomes. This was the case for the MHP intervention and as a result it must be acknowledged that there were many elements to the programme of work that were all completed to a high standard. These included: the completion of a scoping review to gather information and the production of a logic model to ensure structure as well as presenting a clear theory of change before the MHP intervention was designed; the acceptability testing of the intervention with key stakeholders to test the intervention components in a simulated environment; and feasibility testing of the MHP intervention to identify any problems or refinements needed before final implementation. Multiple elements were completed before the implementation of the main study to ensure that any results achieved after this could be confidently relied upon as such a rigorous design process had been followed.

The use of focus groups to acceptability test the MHP intervention before undertaking the feasibility study was another strength. The involvement of stakeholders in intervention design and acceptability testing contributes to reducing the risk of an

intervention failing²²⁵ and is useful in HP research for guiding design, components and activities.²²⁶⁻²²⁸ By using focus groups in a simulation of the MHP intervention it enabled adjustments to be made to each of the components before implementation, a recommendation by the MRC Framework to encourage the chances of the intervention causing change. The production of the MHP intervention following the focus groups, was a further strength of the study as the components were found to be acceptable to the high school pupil participants, with only minor changes suggested.

When focussing on the study of the impact of the MHP intervention on the high school pupils, further strengths of the research can be seen. Firstly, the MHP intervention was able to show a positive impact upon the high school pupils as discussed in Section 6.3.2. This is a strength of the research as it shows that a one hour MHP intervention delivered on a single occasion can be successful. The use of a paper-based, SAQ allowed for cross-sectional data to be gathered for the whole Y9 cohort with relative ease. Although the response rate was poorer for the feasibility study, this was addressed and improved for the main study where a much higher response rate was seen; this is the reason for completing a feasibility study so that adjustments and refinements can be made. Previously validated measures were used as they were known to be reliable and supported comparisons between the PhD programme of work and the work of others who had used the same tool. The process for obtaining consent for this study was complex and time-consuming, yet it was managed appropriately to ensure the study was completed to a high ethical standard.

The study of the impact of delivering the MHP intervention on the MPharm students contained several strengths. Firstly, multiple methods were used: focus groups built on

the results of the reflective reports enabling further in depth understanding. This allowed for the triangulation of data, strengthening the research findings. The study again found that there was a positive impact on the MPharm student participants and using the lens of Kolb's experiential learning cycle, insight into how the SL programme produced effects on learning outcomes were gleaned. The study was able to successfully establish how the novel SL programme is an asset to the MPharm degree programme, enabling the development of skills and behaviours that are of particular relevance to the new Standards for the Initial Education and Training of Pharmacists.¹⁰ This is an exciting and innovative opportunity that incorporates experiential learning within the community as part of undergraduate pharmacy education.

6.4.2 Limitations

There are a number of limitations associated with the PhD programme of work that must also be acknowledged. Firstly, in relation to the scoping review in Chapter 2, it was not possible to determine which outcomes were associated with which component. Although this was not the aim of the review, this would have been beneficial when designing the MHP intervention. It was difficult to ascertain how theory was used and applied to designing and developing the interventions within the studies in the focus group; this led to other learning theories being used for the PhD programme of work. Ideally a theory would have been selected from those within the scoping review which could have been applied in a similar manner. Another limitation was that only studies that focussed on MHP were included in the review. This decision, made due to the focal topic of the thesis being mental health, could have limited the scope of the evidence included as other school-based HP interventions could have usefully informed the MHP intervention design.

Limitations of testing the acceptability of components within the MHP intervention (Chapter 3) have also been identified. Firstly, the high school pupils were only involved as collaborators²²⁹ who were acceptability testing content that had already been created. If they had contributed more, for example if they had been asked to co-design the intervention or given opportunities to select components to be included, it is possible that benefits associated with user-controlled design may have resulted such as identifying issues or questions that may be missed and subsequently have allowed for a different perspective to have been incorporated.²³⁰

There is the potential for positive bias as EW designed the intervention components and was also involved in facilitating the focus groups. Additionally there were only two focus groups used for the acceptability testing so it cannot be established for certain that data saturation was reached.¹⁵⁷ The small sample size limits the generalisability of the results however for this study the aim was to get the views and opinions of the specific population targeted so this was not an issue to be considered further.¹⁵⁷

Another limitation relates to the content of the focus groups themselves, and in particular the discussions of the Prezi presentation. Although the majority of components were completed by the participants as they would be during the intervention, accurately simulating the experience, this was not the case for the Prezi presentation. Instead the Prezi presentation was shown to the high schools pupils and was discussed only in terms of the design of the presentation not in relation to its content. Therefore participants could not test the acceptability of what was in the presentation and attest to whether it met the ILOs. This decision was taken due to the length of the Prezi presentation as it was felt it was too long to expect the participants

to listen to the content of each slide as it would be presented during the intervention. However this meant it was difficult for the participants to offer more than an opinion on the face validity of the presentation, or if it *appeared* that it would meet the aims of the intervention.¹⁸⁴

The final limitation of the acceptability testing was that only two of the seven constructs of acceptability in Sekhon's framework were used to analyse the focus group data.¹⁶⁶ This decision was made as the two selected constructs were thought to be more appropriate to the current study along with evidence of other studies using the framework in this way and not applying all seven constructs.^{167, 168} However, this could have inadvertently limited the results obtained by the study as although not anticipated, unexpected data could have been gathered in relation to the other five constructs.

The main limitation with regards to the evaluation of the impact upon the high school pupils (Chapter 4) was that by using a quantitative method of data collection, the SAQ, it is possible that unexpected outcomes may have been missed.¹⁸³ The use of surveys also has the potential for participants to misinterpret or misunderstand the questions asked of them.¹⁸³ Furthermore, as participants completed the SAQ without the researcher present it is not possible to determine if the responses were accurate or if answers were selected randomly.¹⁸³ Additionally the SAQ was changed after the feasibility study. Although this change was made as the internal validity of one of the measures was found to be below an acceptable level and to try to ensure the theory of change was rooted throughout the evaluation as well as to cut down the length of time taken to complete the SAQ, this limited comparison between the feasibility and main study results. A further limitation to the study was that during the feasibility study it was

not possible to undertake comparative, statistical analysis on participants who selected the 'other' gender category due to the small size of this sub-group. There is estimated to be around 200,000 people in the UK who identify as non-binary or transgender, this is around 1% of the UK population.²³¹ Although a smaller group, this population is more likely to experience poor mental health and discrimination with 37% accessing mental health services.²³² Although a MHP intervention would certainly be appropriate in this population, it would need to be a targeted intervention designed with an understanding of the needs of this specific population.

There were also some limitations to the study reported in Chapter 5, the impact upon the MPharm students. Firstly, the MPharm students were only involved in evaluating the SL programme after completing it, rather than involved in the programme design. This input could have been valuable as there is a growing body of research that advocates for the inclusion of students in curriculum design to ensure the student voice is heard and to align both student and educator expectations, particularly when a new element of a curriculum is being designed.²¹³ Additionally, much like with the focus groups with high school pupils in Chapter 3, it was not possible to know if data saturation was achieved during the focus groups with MPharm students. Across the four focus groups the size of the group ranged from four to eight participants, and as a consequence the recommended number of six to eight participants was not consistently reached. This was due to participants dropping out of the focus groups on the day of data collection. In addition, as the MPharm students were aware that EW had designed and developed the MHP intervention, this could have led to a positive bias from participants as EW also facilitated the focus groups. The final limitation regarding the focus groups was that although it was possible to determine which health promotion

topics the students within the focus groups had delivered and the proportion of those who had delivered the MHP intervention (78%), it was not possible to identify if quotes from focus groups three and four were from students who had delivered the MHP intervention due to the transcription process. Although the majority of the students participating in the focus groups had delivered the MHP intervention, this could have led to more specific recommendations for the SL programme.

With regards to the reflective report, the scope and depth of reflections may have been inadvertently restricted due to the structured nature of the questions. Additionally, the fact that the report was submitted as a summative assessment meaning the students had to pass the assignment to progress with their MPharm degree may have influenced the content of the reflections. It is not possible to determine whether the content of the reflections were honest and a true representation of their experience with the SL programme, however steps were taken to try to mitigate this such as the use of a pass/fail process rather than a percentage grade, which allowed for the focus to be on the reflection itself rather than the content of the reflection.^{197, 198}

Additionally, when comparing the reflective reports and the focus group data, it must be acknowledged that data was only used from students who delivered the MHP intervention for the reflective reports, however data was collected from students who delivered various (MHP, alcohol awareness and antimicrobial resistance awareness) interventions during the focus groups. This restricted the triangulation process and potentially limited recommendations for the SL programme in relation to the MHP intervention specifically. This could have been improved upon and avoided if a sample

of reflective reports from the other HP interventions had been selected and analysed comparatively alongside the MHP intervention reflective records.

As well as limitations within the individual studies, there were limitations that spanned the development of the programme of work as a whole. The main limitation was that not all stages of the MRC Framework were completed. The MRC recommends that as part of the Evaluation Phase, a stage is dedicated to understanding the change process.⁸³ This is also known as a process evaluation and was not completed for this programme of work. Process evaluations are important for ensuring results of a study can be linked to the content of the intervention and include assessing implementation, causal mechanisms and contextual factors.⁸³ The lack of process evaluation meant that it was not possible to establish the how or the why behind the outcome evaluation results; it was not possible to determine which impacts observed on the high school pupils and the MPharm students were related to the different aspects of the MHP intervention, nor if the impacts were directly related to the MHP at all. Although the programme of work included the design of a logic model and was theory-informed as well as being underpinned with a theory of change connecting assumptions behind the MHP intervention and why these could have led to positive results, this was not developed further into a full process evaluation. If a process evaluation had been undertaken the quality or fidelity of intervention delivery could have been tested alongside outcomes, to provide insight into how and why outcomes were achieved. Another advantage of conducting a process evaluation is the discovery of new pathways of impact that have not been captured, such as impacts of the MHP intervention that were not anticipated and therefore not included in evaluation design or logic model.⁸³

Evaluating the context of the intervention using a process evaluation could have helped to understand any pre-existing factors that may have influenced the intervention.⁸³ For example, the amount of MHP already provided by the school could have been an influence. If more contextual, situational data related to the high school pupil's mental health or that of people close to them had been collected, this could have been used to understand further other influences on their participation in and benefit from the MHP intervention. Furthermore a large number of different providers (MPharm students) were involved with the delivery of the intervention so it is possible the fidelity, or the extent the intervention was delivered how it was intended,²³³ of the delivery was negatively affected.

Another stage of the Evaluation Phase, assessing cost-effectiveness was also not completed. While beyond the scope of the programme of work, this would have provided valuable evidence of whether the SL programme within the MPharm degree programme was capable of having impact in a cost-effective way. Within the Implementation Phase, although the Dissemination Stage was completed neither the Surveillance and Monitoring Stage nor the Long term Follow-up Stage were completed. Again these were beyond the scope of the PhD programme of work however longer-term data would be beneficial to show the impacts of the SL programme over a more sustained period.

Finally the limitations of the MHP intervention itself must be addressed. The MHP intervention was designed as a one-off intervention despite the literature suggesting that interventions delivered on multiple occasions to the same target group of pupils are more effective. This was out of EW's control due to restrictions on both the MPharm

degree programme (students were only required to deliver one intervention as part of the SL programme) and timetabling at the high school.

6.5 Implications of study findings

The key findings from this PhD programme of work have implications for the future, mainly for higher education providers and collaborations between high schools and higher education institutions.

6.5.1 Implications for pharmacy education

The results of this study suggest that SL can be used successfully to incorporate experiential learning within the MPharm curriculum. Additionally SL is able to have a positive impact upon MPharm students involved. Although the benefits of experiential learning are well-documented, current MPharm curricula tend to use more traditional pharmacy practice settings for this experiential learning.³⁶ Even when experiential learning is used, this is often limited as MPharm learning primarily takes place within a higher education institution. This study has provided evidence that experiential learning in a community setting can provide valuable opportunities for students to practise being healthcare professionals, and equips them with an understanding of HP and professional skills needed for their future practice. The addition of SL within the MPharm degree programme at UoM provided students with additional opportunities to practise these skills and to engage in reflection, which is another key skill needed by pharmacy professionals.⁹

The findings suggest that the SL programme was not only successful at achieving the ILOs, but it was also well received by the MPharm students themselves. The students

were able to link their participation within the SL programme to their future careers, and acknowledged that it was a unique learning opportunity that they had not experienced elsewhere in the MPharm curriculum. Therefore, when evaluating MPharm providers there is evidence that the approach could be replicated successfully to increase the contact MPharm students have with patients and the public during their undergraduate pharmacy education.

The implications of SL programmes are wider than just the benefits for the individual students. Many universities, including UoM, recognise the importance of social responsibility, and within this public engagement as a core value that strengthens the standing of the university. Therefore the inclusion of SL programmes within MPharm curriculums would potentially enable other pharmacy schools to contribute to their wider university goals, thus increasing the recognition by relevant university leadership and acting as examples of good practice.^{27, 28}

Overall, the introduction of the SL programme within the MPharm degree programme was able to show a positive impact on not just the MPharm students but on the wider programme and the UoM as a whole. It is a unique opportunity that allowed MPharm students to interact with their local community whilst developing and preparing them for professional practice.

6.5.2 Implications for mental health promotion in high schools

This PhD programme of work has further established that using PE to deliver MHP is feasible, as the MHP intervention had a positive impact upon the knowledge and attitudes of the high school pupils involved as well as the benefits seen for MPharm

students. This is an important finding particularly as it was a one-off intervention; this implies that if a longer-term intervention were employed the impact could be increased. That the MHP intervention was able to impact on high school pupils' public stigma, social distance, help-seeking and language surrounding mental health are also important findings.

Whilst there were promising and statistically significant findings in terms of changes in attitudes found during for the MHP intervention, not all of the results were statistically significant. This has been found previously with MHP interventions in schools⁶⁰ and is therefore not necessarily an area for concern. Literature illustrates that the very act of delivering and receiving a MHP intervention can represent real-world impacts for those students receiving the intervention.⁶⁰ Although this was not captured during this PhD programme of work, future research analysing these real-world implications are discussed in Section 6.6. The findings from the evaluation were mainly positive and align with other studies that have shown the cumulative effect of MHP interventions and the need for these types of HP studies.^{60, 234} Due to the nature of intervention research, deciding upon dependent variables or outcomes at the start of an intervention can be somewhat problematic and the use of a SAQ limits capturing any unexpected outcomes (previously discussed in Section 6.4.2). Therefore the success of an intervention must be judged on other factors rather than just outcome variables, for example successful implementation and collaboration.²³⁵ Since the development of the MHP intervention for this PHD programme of work there has been an updated version of the MRC Framework published.²³⁶ This framework focusses upon going beyond if an intervention works and the statistical significance of outcome data and emphasises the need to understand how an intervention works. This change in emphasis supports the evaluation

of the MHP intervention in this PhD programme of work, where theorisation about how the intervention worked was undertaken and used to build support for successful intervention delivery in a real-world context.

The success of the MHP intervention was in part down to the relationship built between EW and the local high school. This collaboration was vital, particularly for organising intervention delivery within the restrictions of the high school timetable. The MHP intervention was offered to the high school as part of a wider initiative at the UoM. By accepting this the high school was able to increase the amount of PSHE education offered to their students, at no extra cost to themselves. The level of PSHE education taught within high schools is varied, primarily as it is not a core curriculum subject and the amount delivered is decided by individual schools.⁵⁶ Therefore the results of the MHP intervention study show that if high schools and universities are able to build up these local relationships there are benefits to both populations.

6.6 Recommendations for future research

The first recommendation for future research following on from this PhD programme of work is the expansion of the SL programme evaluation to include further investigation into the longer term impacts of the SL programme on the MPharm students. This could involve tracking career paths or academic outcomes, as well as qualitative data collection through focus groups with students who had participated in the SL programme whilst at UoM. It is known that participating in SL programmes can contribute to the civic engagement of students and to the development of professional skills that will be needed when students leave education;¹⁸ the use of exploratory

methods could determine if participating in the SL programme had a lasting impact on these outcomes for the MPharm students, beyond their time at UoM.

A further area for future research could be the involvement of stakeholders (the high school pupils and the MPharm students) in both intervention and curriculum design. It is important that universities not only provide student with knowledge, but also the skills to apply this knowledge practically; it is thought involving students in curriculum design may go some way to ensure this practical application is occurring.²³⁷ Also, by involving students in curriculum design in a meaningful way student engagement and commitment to a topic is known to increase; investigation into student involvement with curriculum design could be determine if this participation had an impact upon the success of the interventions delivered.²³⁷

Future research could explore the expansion of the SL programme to include interprofessional education (IPE), for example including medical or nursing students within the groups of students delivering interventions. Comparison between opinions and views of healthcare students would then be possible. In addition in the future it could be beneficial to involve mental health service users in the delivery of the MHP intervention. It is known that pharmacy students generally have little exposure to service users within their degree programmes, and therefore struggle to communicate with these service users once qualified.⁴⁰ By introducing service users to the delivery team in addition to the group of students, this would go some way to increase this exposure within an experiential learning setting. The impact of this exposure could then be explored with the participating MPharm students.

A further area of future research could be to capture data about the impact on the aspirations and attitudes of the high school pupils towards further education, and particularly pharmacy, after their encounters with the MPharm students. It is thought that introducing high school pupils to university students, particularly if they can relate to these students, has a positive impact upon their aspirations and application to university.²³⁸ This research could involve a longitudinal design, following the long term outcomes of these pupils. Quantitative methods such as questionnaires could be a good option to gather this data. Data could also be captured to try to determine the real-world impacts of receiving a MHP intervention. These real-world impacts could be specific to the content of the intervention for example improvements in social and emotional skills or more general such as decrease in misbehaviour in the classroom.⁶⁰ This data could be captured using observation or other qualitative methods rather than questionnaires, to encourage researchers to look beyond only looking for statistical significance in terms of these intervention outcomes.²³⁹

Another future research area could be to investigate demographic differences in the impact of the MHP intervention. A study by Robinson *et al.* described links between poor mental health in young people and certain socio-demographic factors such as smoking status and family functioning.²⁴⁰ This could be investigated and would allow for more understanding to be gained surrounding baseline levels of exposure and the context the MHP intervention is delivered within. For example, if data surrounding personal history or exposure to mental health illness or disorders was collected, this could be used to try to further understand the impact of a MHP intervention. Additionally, specific research could be completed exploring the needs of populations' who identify as 'other' genders. It is known that this population attends mental health services more than the general

population and in a recent government survey 76% of this population expressed that they fear a negative reaction from others due to their gender identity.²³² Therefore a targeted intervention, designed with input from the target population to ensure acceptability and appropriateness, could be an interesting area for future research.

Finally, although this PhD programme of work was able to identify some positive impact, this was on a relatively small scale as it was based at only one high school. To build upon the success of this project, data could be collected from multiple schools thus increasing the sample size and allowing for comparisons between schools. The MRC Framework provided a useful method to ensure the programme of research was robust. Furthermore, the intervention could be developed to include multiple sessions which may potentially increase the impact. Each session could focus on a different area of MHP, with data collected at the end of each session as well as post-intervention. This might also allow for more meaningful relationships to build between the high school pupils and MPharm students, increasing the impact of the SL programme in terms of learning outcomes seen for the MPharm students. This could be evaluated using a mixed methods design much like within this PhD programme of work but further insight into longer-term impacts could be gained.

6.7 Overall conclusion

This research found that it is possible to design a MHP intervention using the MRC Framework, utilising PE within a SL programme. The MHP intervention had a positive impact on high school pupils and MPharm students. This suggests that future interventions using a similar methodology could be delivered on a wider scale to produce more widespread impact.

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Appendices

Appendix 1. Advertising statement read by teachers to Year 9 pupils for acceptability testing focus group study

- A researcher from the university of Manchester is interested in working with some of you for her research
- She is a PhD student who is developing a mental health workshop for Y9 pupils in the Manchester area and she would like some input from people of your age
- The research will involve taking part in something called ‘focus groups’ which are discussions in groups of 6-8 people in your year group
- The focus groups will take 1 hour and will take place during a PSHE lesson
- During the focus groups you will be shown videos, sections of presentations and worksheets and you will be asked for you thoughts and opinions about these and if you think they would be good as part of the workshop
- There is no pressure to be involved in the focus groups
- Neither those taking part in the focus groups or remaining in the PSHE lesson will be at any advantage/disadvantage – those still in the PSHE lesson will be covering some similar areas
- If you take part you will be helping the researcher to develop the workshop that will be delivered at a later point in the year to the whole of Y9
- I am going to hand out two envelopes to you now which you need to give to your parents and one for you. Your parents need to have this information and the option to opt-out of you being part of the research as you are under 16 years of age

Appendix 2. Parent/carer pack cover letter for acceptability testing focus group study



The University of Manchester

Dear parent/carer,

Loreto High School has the opportunity to be involved in a piece of research for the University of Manchester. There is an information sheet included in this envelope which contains all of the details about the study, along with contact information if you have any more questions. There is also an opt-out consent form included which you only need to complete if you **do not** want your child to take part in the research. The deadline for returning the opt-out consent form is the **12th October 2018**. A stamped, addressed envelope has been included for you to return this. Please allow 2-3 days for postal delivery. A second copy of the opt-out consent form has been supplied for you to keep. If you do not return the opt-out consent form it will be taken that you are giving consent for your child to take part in the research.

If you decide to opt-out of consenting for your child to take part in this study this will remain confidential between yourself and the research team - the class teachers at Loreto High School will not be informed. Your child will not be advantaged or disadvantaged by either taking part in the study or not taking part and the research team will not inform them that you have opted-out.

Many thanks,
Emma Williams

PhD student – ‘The development of a peer-led, school-based mental health promotion intervention’

emma.williams-12@postgrad.manchester.ac.uk

Appendix 3. Parent/carer pack participant information sheet for acceptability testing focus group study



Information Sheet

This information sheet should be read in conjunction with [The University privacy notice](#)

Your child has been invited to take part in a research study. Before you decide whether you would like them to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and discuss it with your child if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you would like them to take part. Thank you for taking the time to read this.

Who will conduct the research?

Emma Williams a PhD student from the Division of Pharmacy and Optometry at The University of Manchester.

What is the purpose of the research?

The aim of the research is to develop a mental health promotion workshop for Year 9 pupils in Manchester. To make sure the workshop includes topics and activities that are relevant we would like your child to help us in the design process.

Why has my child been chosen?

Your child has been chosen as they are in a Y9 class at a school in the Manchester area.

What would my child be asked to do if they took part?

If your child would like to take part we will ask them to volunteer to take part in a

- Focus group (group discussion) with 5 to 7 other Y9 pupils from their school.

The focus group will take place during the normal school day. During the focus group your child will be asked about some resources and activities we are planning to include in the workshop. Your child will not be asked to talk about any details of their own personal experience with mental health, all discussions will be about the general topics and they will be asked for their thoughts and opinions only. Some examples of the resources are listed below:

- Discussion around the use of a Prezi presentation (very similar to a PowerPoint presentation) i.e. the colours, the layout
- Activity about acceptable words/phrases to describe mental health – these words are written on two separate A3 pieces of paper as a groups and discussed
- Activity about celebrities with mental health disorders/illness – photos of celebrities are matched their mental health disorder/illness to represent that mental health is often invisible
- 2 videos will be shown to the group – the first is the ‘stand up kid video’ which is involves actors describing how it feels to have depression at school and not be understood. The second is ‘mental health in our own words’ which involves real-life people discussing their illness for the charity Mind.

Before your child takes part in the focus groups they will have been given their own information sheet and an assent form which they need to complete and return to Mrs Knowles by the 12th October before they can be selected to take part in the focus groups.

What will happen to my child’s personal information?

In order to undertake the research project we will need to collect the following personal information/data about your child:

- Name
- Gender

The focus groups will be recorded (voice only) and these recordings will be used by the researcher to analyse the discussion after the focus group has finished. Only the research team will have access to this information. The recordings will be uploaded onto a secure network drive and then transcribed. Both the transcriptions and recordings will be kept for 5 years and the original recordings deleted.

We are collecting and storing this personal information in accordance with the General Data Protection Regulation (GDPR) and Data Protection Act 2018 which legislate to protect your personal information. The legal basis upon which we are using your child’s personal information is “public interest task” and “for research purposes” if sensitive information is collected. For more information about the way we process personal information and comply with data protection law please see our [Privacy Notice for Research Participants](#) that you have been provided with.

The University of Manchester, as Data Controller for this project, takes responsibility for the protection of the personal information that this study is collecting about your child. In order to comply with the legal obligations to protect your child’s personal data the University has safeguards in place such as policies and procedures. All researchers are appropriately trained and your child’s data will be looked after in the following way:

The study team at the University of Manchester will have access to your child’s personal identifiable information, that is data which could identify your child, but they will anonymise it as soon as practical. Your child’s assent form will be retained for 5

years. The forms will be scanned and then stored on a secure network drive; the paper copies will be destroyed.

You have a number of rights under data protection law regarding your child's personal information. For example you can request a copy of the information we hold about your child, including voice recordings. This is known as a Subject Access Request. If you would like to know more about your child's different rights, please consult our [privacy notice for research](#) and if you wish to contact us about data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, University of Manchester, Oxford Road, M13 9PL. at the University and we will guide you through the process of exercising your rights. You also have a right to complain to the [Information Commissioner's Office](#), Tel 0303 123 1113.

Will my child's participation in the study be confidential?

Your child's participation in the study will be kept confidential to the study team and those with access to your child's personal information as listed above. Your child's name will be removed from the data and replaced with a pseudonym, for example participant 1.

The voice recordings from the focus groups will be kept confidential as:

- Only the researcher will be transcribing the focus group information
- Personal information will be removed from the transcript of the voice recordings
- The voice recordings will be kept on a secure network drive
- The voice recordings will be kept for 5 years in accordance with the UoM retention schedule

What happens if my child does not want to take part or if they change their mind?

It is up to your child and yourself to decide whether or not they want to take part. If you do not want your child to take part you must sign the opt-out consent form. If you agree to your child being involved with the research your child will be also given an information sheet and asked to sign an assent form. If your child decides to take part they are still free to withdraw at any time without giving a reason and without negative consequences to themselves. However, it will not be possible to remove their data from the project once it has been anonymised and forms part of the dataset as we will not be able to identify their specific data. This does not affect their data protection rights.

The voice recordings are essential to the running of the focus group and therefore are not optional. However if your child feels uncomfortable at any point during the recording it can be stopped at any time.

Will my child be paid for participating in the research?

Your child will not be paid for taking part in this research.

What is the duration of the research?

The focus group will last for up to 1 hour.

Where will the research be conducted?

The study will take place at Loreto High School.

Will the outcomes of the research be published?

The outcomes of the research may be published in academic journals or reports, and will also form part of the PhD thesis for Emma Williams.

Disclosure and Barring Service (DBS) Check

Emma Williams, the researcher who will be running the focus groups with your child, has undergone a satisfactory DBS check.

Who has reviewed the research project?

The project has been reviewed by the full University Research Ethics Committee 3

What if I want to make a complaint?**Minor complaints**

If you have a minor complaint then you need to contact the researcher supervisors in the first instance.

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Formal Complaints

If you wish to make a formal complaint or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact

The Research Governance and Integrity Manager, Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing:

research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

What Do I Do Now?

If you would like your child to take part then you did not need to complete any forms. If you would not like your child to take part then please complete the opt-out consent form and return one copy to Emma Williams using the stamped, addressed envelope provided.

If you have any queries about the study or if you are interested in your child taking part then please contact the researcher(s)

Researcher:

Emma Williams emma.williams-12@postgrad.manchester.ac.uk 0161 2751807

Research Supervisors:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Appendix 4. Parent/carer pack opt-out consent form for acceptability testing focus group study



Consent Form

The development of a mental health promotion workshop in high schools

If you do not want to allow your child to participate in this research please complete and sign the consent form below and return by 12th October 2018 using the stamped, addressed envelope provided.

	Activities	Initials
1	I confirm that I have read the attached information sheet (Version 3, 28/9/2018) for this study and I do not wish my child to take part.	

Name of child

Class

Name of the person not giving consent

Date

Signature

Appendix 5. Recruitment email to parents for acceptability testing focus group study

Dear parent/carer,

I am Emma Williams and I am PhD student from the Division of Pharmacy and Optometry at The University of Manchester. Your child has the opportunity to be involved in a piece of research for the University of Manchester. There is an information sheet attached to this email which contains all of the details about the study, along with contact information if you have any more questions.

If you **do not** want your child to take part in the research then please send an email to emma.williams-12@postgraduate.manchester.ac.uk with the statement 'I do not agree to allow my child to take part in this study', along with the name of your child, their class, your name and the date by the **12th October**.

If you decide to opt-out of consenting for your child to take part in this study this will remain confidential between yourself and the research team - the class teachers at Loreto High School will not be informed. Your child will not be advantaged or disadvantaged by either taking part in the study or not taking part and the research team will not inform them that you have opted-out.

Your child will also have brought home physical paper copies of all of the information sheets and opt-out consent forms in parent pack envelopes. There is a physical copy of the opt-out consent form within this along with a stamped, address envelope if you would prefer to use this method to opt-out of the research instead of email.

If you neither reply to this email nor send the physical copy of the consent form back to the researcher it will be taken that you are giving consent for your child to take part in the research.

Many thanks,
Emma Williams

PhD student – 'The development of a peer-led, school-based mental health promotion intervention'

emma.williams-12@postgrad.manchester.ac.uk

Appendix 6. Year 9 pupil pack participant information sheet for acceptability testing focus group study

The Development of a Mental Health Promotion Workshop

Who is Conducting the Research?

My name is Emma Williams and I work as a researcher at the University of Manchester. I would like to invite you to take part in a research study about developing a mental health promotion workshop.

Before you decide if you wish to take part, please make sure that you understand:

1. Why the research is being done
2. What your involvement in the project will be

Take your time to read through this information sheet before you decide if you wish to take part. Ask as many questions as you wish.

What is the Purpose of the Research?

The purpose of this research is to help develop a mental health promotion workshop that will be delivered to high school pupils in Manchester.



Why this is Important?

Mental health is important for everyone but particularly young people. Globally approximately 1 in 4 young people have an identifiable mental health problem. Mental health can often be improved and managed if people are given the right information and skills to do this.

What is Mental Health Promotion?

Mental health promotion involves helping people to improve and develop their positive mental health. We want to develop a mental health promotion workshop for Y9 pupils.

Why Are We Doing Our Research?

The aim of our research is to develop a mental health promotion workshop that can be delivered to Y9 pupils in Manchester. It is very important that the workshop includes

topics and activities that are relevant to your age range (Y9) so this is why we want you to join this research.

Any results will help us to design a workshop that is useful for Y9 pupils.



Why Have I Been Asked to Take Part?

We have asked you to take part because you are in Y9 and attend a school in the Manchester area.

What Would I Be Asked to Do if I Take Part?

If you we will you will volunteer to take part in a Focus group with 5 to 7 other Y9 pupils from your school. A focus group is another way of saying a group discussion.

During the focus group we will ask you what you think about resources and activities and you will be asked to comment on these.

You will not be asked to talk about any details of your own personal experience of mental health. Some examples of the resources are listed below:

Discussion around the use of a Prezi presentation (very similar to a PowerPoint presentation) i.e. the colours, the layout

Activity about acceptable words/phrases to describe mental health – these words are written on two separate A3 pieces of paper as a groups and discussed

Activity about celebrities with mental health disorders/illness – photos of celebrities are matched their mental health disorder/illness to represent that mental health is often invisible

2 videos will be shown to the group – the first is the ‘stand up kid video’ which is involves actors describing how it feels to have depression at school and not be understood. The second is ‘mental health in our own words’ which involves real-life people discussing their illness for the charity Mind.

How Long is the Study?

The study will take 1 hour to complete.

Where will the Study Take Place?

The study will take place at Loreto High School.

Will my Participation in the Study be Confidential?

In order to take part in the research we will need to know your name and gender only. Only the research team will have access to this and we will ensure it is kept safe and secure in accordance with the General Data Protection Regulation (GDPR) and Data

Protection Act 2018. If you would like to know more about how we keep your information safe and comply with the law, please read through our [Privacy Notice for Research](#) or discuss the privacy notice with your parent/guardian.

The University of Manchester will protect the information about you as we are called the Data Controller (this means we have to protect your information by law). To do this we have a number of safeguards in place such as policies and procedures. All researchers have received training to do this and we will make sure that they keep your information safe.

We will make sure that no one knows you have chosen to take part in the study and will also not share any information you have given to us. To do this we will use a process called anonymising, which means that we will generate a secret code for you and make sure that your name is stored in a different place to the rest of the information you give us. We will also keep the information you give us for five years and then it will be safely destroyed.

You have many rights under the new data protection laws and can request to see any of the information you have shared with us. This is called a Subject Access Request and if you would like to know more about your rights, please read through the [Privacy Notice for Research](#) or discuss it with your parent/guardian.

Do I Have to Take Part?

It is completely up to you if you wish to take part in the study. Make sure you think carefully and consider all the information contained in this sheet before you decide.

After you have decided you will be asked to sign an assent form that shows you understand and agree to take part in the research.

What if I Change my Mind?

You are free to withdraw from the study at any point without having to give a reason. If you decide to withdraw any information already collected will be used in the final analysis. Please remember that your data (information) will be anonymised and you will not be identified in any way.

Who is Organising and Approving the Research?

The research is being sponsored by the University of Manchester and Health Education England. The research has also been approved by the University Research Ethics Committee, a group of people who work to protect your safety, rights, wellbeing and dignity.

What Do I Do Now?

If you would like to take part in the research then please complete the assent form and return it to Mrs Knowles in PHSC. Please be aware that if more people volunteer for the study than is needed, the researcher will select the participants randomly.

If you have any questions relating to the information contained in this sheet, please let me know:

Emma Williams emma.williams-12@postgrad.manchester.ac.uk 0161 2751807

Research Supervisors:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Thank you for reading this!



Appendix 7. Year 9 pupil pack assent form for acceptability testing focus group study



Assent Form

The development of a mental health promotion workshop in high schools

If you are happy to be involved in the focus groups please complete and sign the assent form below and return to Mrs Knowles by the **12th October 2018**.

	Activities	Initials
1	I confirm that I have read the attached information sheet (Version 3, 28/9/2018) for this study and have been given time to consider this and ask questions	
2	I understand that my participation in the study is voluntary and that I am free to pull out at any time without giving a reason and with no negative consequences. I understand that once I have completed the focus group my contributions will be anonymised (personal details removed). I understand that once I have participated in the focus group it will then not be possible to remove my contributions from the researcher's work.	
3	I agree to the focus groups being voice recorded.	
4	I agree that any information collected by the researcher may be published in academic books, reports or journals with no personal details that may identify me.	
5	I agree to take part in this study.	

Name of Participant

Signature

Date

Appendix 8. Focus group topic guide for acceptability testing focus group study

Focus group topic guide

Focus group characteristics

- 6-8 participants
- Y9 pupils
- Loreto high school

Focus group topic guide and structure – 1 hour total

Welcome – 5 mins

Equipment – encrypted Dictaphone

“Hello everybody, my name is Emma and I will be conducting the focus group discussion today.

I have invited you to discuss a new mental health promotion workshop that I will be developing for high school pupils in Y9. Your opinions and views are very important and will really help to develop the content. The focus group will start with me asking you all some open questions and I would like you to either discuss or write down some answers to these – I will let you know what to do when I ask the questions. I will also ask you to look at some resources that I have brought with me and discuss these.

This conversation will be voice recorded. This is only for the purpose of this research and only myself and the research team will listen to it. To maintain confidentiality no names or personal details will be used when I write up this discussion for my research and the tapes will be destroyed once they have been written up.

So some practical issues before we start

- The focus group will last for 1 hour
- Try not to use people’s names during the discussion, if you do I will remove them later
- Only one person should speak at one time, try not to talk over each other
- There are no right or wrong answers, if you have something you would like to say then just say it
- You don’t have to speak in a particular order, ie you don’t need to go around the circle
- You don’t have to agree with everything everyone in the group says but please be respectful of other people’s opinions
- You will not be expected to talk about any personal experience with mental health, this is only to gain your opinions and views about potential content for the workshop
- If being involved in the focus group does cause you any upset or distress please let me know and we can decide what would be best to do

Anyone have any questions? Great, let’s get started.”

Opening question

So firstly I would just like to go around the circle and introduce ourselves and tell us one interesting fact about ourselves. So “My name is Emma and I have a pet dog called Paolo”.

Key questions – 45 min total

Activity 1 – discussion about Prezi – 10 mins

Equipment – laptop/iPad.

This is the link to a Prezi presentation made for a separate workshop that will be a similar style to the one I will go through with the Y9s. The content of this Prezi was for a different workshop but it will be similar but will not contain the content about self-esteem. The purpose of the exercise in this focus group however is to get the opinions of the Y9s about the Prezi style more than the content and the one in the link will be similar to the one shown in the focus groups. I have not yet finalised the Prezi for the final intervention workshop as this depends on the content which depends on how the resources are received by the Y9 pupils. <https://prezi.com/p/ra6ctcr9os6x/>

“So the layout of the workshop is going to be a Prezi presentation that will be delivered to Y9 pupils by pharmacy students from the UoM. There will be activities throughout the presentation too. The first task of this focus group is to get your opinion about the actual Prezi presentation itself, so I am going to show you the slides now and ask you some questions.

Do you think the Prezi is eye-catching and easy to read?

Do you think the Prezi style presentation is a good way to deliver a presentation to Y9 pupils? Why?

Is there anything you would change about the Prezi”

Activity 2 – acceptable/unacceptable words and phrases about mental health – 10 mins

Equipment – 4 x A3 paper, marker pens

“I would like you to in 2 groups (split them as they are sitting) to discuss what is acceptable or positive language towards mental health and people with mental health problems or conditions and write that down on one of the A3 sheets of paper, and on the other write down unacceptable or negative language to describe mental health.

These words do not have to be words you yourself would use to describe someone and remember everyone’s answers should be respected. Do you understand the task?

Once you have written down as many of these as you can think of we will come together as a group and discuss the activity.”

Prompts if needed, negative – schizo, positive – survivor

“So let’s discuss this activity. Do you feel it would be a useful activity for a workshop for Y9 students? The aim of the activity would be to help people learn what the best ways to talk to people about mental health are; do you think this would do this? Is there anyways the activity could be improved?

Activity 3 – Celebrity photo matching exercise – 10 mins

Equipment – print outs of celebrities that have mental health problems/illness and matching conditions (I do not have the print out for these completed yet however at the end of the Prezi presentation in the link there are some example of potential celebrities. Again this prezi was for a separate workshop and not for the one that will delivered in December)

“So for this exercise I want you to look at the photographs of the celebrities and tell me if they look like they have an illness?... The answer is probably no, however each one of these celebrities has a mental health illness or disorder. In your groups can you

discuss the celebrities and see if you can match them to the correct mental health illness/disorder.

So how did you find that activity? Do you think this would be a good activity to do with Y9 pupils? Did you know all of the celebrities? Are there any other celebrities you can think of that have mental health problems that would be more relevant than the ones here? Are there any ways I could improve this activity? The aim of this activity is to show that mental health is often an invisible illness, do you think it does this?"

Activity 4 – Videos 15 mins

Equipment – laptop/iPad to show YouTube videos, paper, pens

"The next thing I would like you to do is to watch two videos. I have given you some paper to write notes and at the end of each video I would like to know what you thought was good about the video and/or what you didn't like about it. After we have done this for both videos I would like you to tell me which one you think would be better for the final mental health workshop.

Video 1 – the stand-up kid 3 mins

https://www.youtube.com/watch?reload=9&v=SE5Ip60_HJk

Discuss positives and negatives

Video 2 – Mind mental health in our own words (7 mins)

<https://www.youtube.com/watch?v=y97VF5UJcc>

Discuss positives and negatives

Take a vote as to which one should be used"

Ending questions – 5 mins

"So is there anything you think we have missed about the development of the workshop or anything that you want to say that you haven't had chance to?"

Prompts – what do they think of the Prezi style presentation, anything else to say about any of the activities

"Finally let's go round the circle again and say what the most important thing you think should be included in this MHP workshop?"

Conclusion – 2 mins

"Thank you all for participating in this focus group. It has been a very successful discussion and your opinions about the mental health workshop will be a lot of help for my research project.

I hope you have found the discussion interesting. If you have any questions or would like to complain about anything to do with the focus group research then please come and see me or contact me with the details on the information sheet.

Finally I would just like to remind you all that any comments made during the focus group are anonymous. Thanks again!"

Appendix 9. Component three of mental health promotion intervention (Celebrity Photograph Matching Activity) used in acceptability testing focus group study



Obsessive Compulsive Disorder	Depression and suicide	Depression
Anxiety and panic attacks	Bipolar Disorder	Anxiety
Depression	Obsessive Compulsive Disorder	Bulimia
Anxiety	Attention deficit hyperactivity disorder	Substance misuse

- 1) Cara Delevigne
- 2) Drew Barrymore
- 3) Adele
- 4) JK Rowling
- 5) Nicole Scherzinger
- 6) Leonardo DiCaprio
- 7) Stephen Fry
- 8) David Beckham
- 9) Zayn Malik
- 10) Ryan Reynolds
- 11) Adam Levine
- 12) Wentworth Miller

Appendix 10. Year 9 pupil distress protocol for acceptability testing focus group study

Y9 Distress Protocol

Important Note: This distress protocol is an example specifically related to direct contact with participants. If your study will involve interviewing participants over the phone, via an online medium or utilising online or postal questionnaires you will need to adopt the measures below accordingly. In addition, this document is for example purposes only and the content must be adjusted according to the specific constraints and risks for your study.

Prior to study

If a situation occurs where a parent/guardian does not give consent for their child to take part in the study but the child has assented to taking part in the study, the child will not be informed of this to avoid causing distress or conflict for either party. The child has been informed on the information sheet and class teacher advertisement that if there are too many volunteers the participants will be chosen at random, so therefore the child will think they have not be chosen for the focus groups in this way. The teachers at Loreto High School will also not know if a parent decides to opt-out of consent as the forms are being sent directly to the researcher and the child's non-selection will be explained the same way. Prior to commencement of the study, the participants will be given a participant information sheet with details of who to contact if they experience distress **Mrs Knowles or the pastoral team at Loreto High School** and these details will be reiterated again with the participant at the conclusion of the **focus group**.

During the study

Should a participant report or show signs of distress and feeling uncomfortable while participating in the focus group, the following actions will be taken by the researcher:

Step 1

Suggest that the participant **take a break or leave the focus group**

Ask the participant how they are feeling, listen with empathy and offer support.

Step 2

If the participant would like to continue, **the researcher will reiterate that the participant can leave the focus group at any time**

If the participant would like to stop or appears highly distressed, follow the actions in **Step 3**.

Step 3

Stop the focus group

Mild distress: Encourage the participant to speak to **Mrs Knowles or the pastoral team at Loreto High School** for support OR offer to do so for the participant.

In all instances the researcher will seek support from their supervisor/line manager.

Follow-up actions

Offer to follow participant up with a phone call the following day to Mrs Knowles.

Offer the participant the opportunity to withdraw from the study and for their data to be destroyed

Recommend the participant contacts **Mrs Knowles or the pastoral team at Loreto High School** if they continue to feel distressed

Appendix 11. Ethical approval form for acceptability testing focus group study

Ref: 2018-4954-7167
01/10/2018

Dear Miss Emma Williams, Dr David Allison, Dr Sarah Willis

Study Title: The development of a mental health promotion intervention

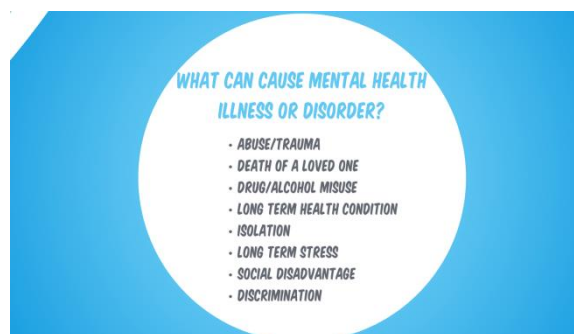
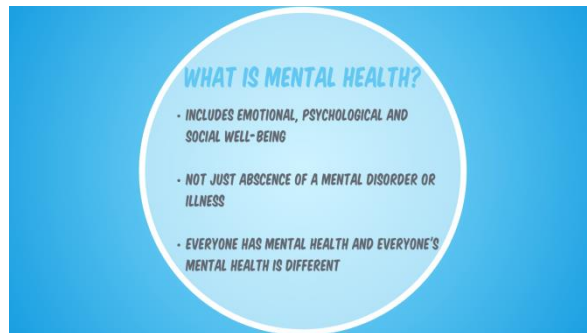
University Research Ethics Committee 3

I write to thank you for submitting the final version of your documents for your project to the Committee on 28/09/2018 16:47. I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and approved by the Committee.

Please see below for a table of the title, version numbers and dates of all the final approved documents for your project:

Document Type	File Name	Date	Version
Lone Worker Policy/Procedure	Risk assessment form for lone worker	20/08/2018	1
Additional docs	The_development_of_a_mental_health_promotion_intervention_	20/08/2018	1
Distress Protocol/Debrief Sheet	Y9 Distress Protocol	19/09/2018	2
Default	Focus group topic guide	25/09/2018	2
Advertisement	Sample text for PSHE teacher	25/09/2018	2
Additional docs	Cover letter for parents	25/09/2018	2
Additional docs	Email to be sent to parents on 1st October	25/09/2018	1
Additional docs	School consent email	25/09/2018	1
Additional docs	debrief card	26/09/2018	1
Participant Information Sheet	Information sheet for parents	28/09/2018	3
Participant Information Sheet	Information sheet for Y9 pupils	28/09/2018	3
Consent Form	Assent form for Y9 pupils	28/09/2018	3
Consent Form	Consent form for parents	28/09/2018	3
Additional docs	Revisions to Ethics Applications 2	28/09/2018	2

Appendix 12. Example screen shots of component one (Prezi presentation) used in acceptability testing focus group study



Appendix 13.
screen shots

**component one (Prezi presentation) after the
 acceptability testing focus group study**

**Example
 of**

MENTAL HEALTH

WHY ARE WE HERE

MENTAL HEALTH

STIGMA

GOOD MENTAL HEALTH

IT'S OK NOT TO BE OK

ANY QUESTIONS?

ILLNESS

TOOK OR TAKEN?

LEARNING OBJECTIVES

- DISCUSS MENTAL HEALTH AND MENTAL HEALTH ILLNESS
- DISCUSS STIGMA AND HOW WE CAN AVOID IT
- DISCUSS WAYS TO IMPROVE OUR MENTAL HEALTH AND WHERE TO GET HELP

EXAMPLES OF MENTAL HEALTH ILLNESS

- DEPRESSION
- ANXIETY
- SCHIZOPHRENIA
- BIPOLAR DISORDER
- POST TRAUMATIC STRESS DISORDER
- AUTISTIC SPECTRUM DISORDERS
- SELF HARM
- OBSSIVE COMPULSIVE DISORDER
- PHOBIAS
- PERSONALITY DISORDER
- ATTENTION DEFICIT HYPERACTIVITY DISORDER
- EATING DISORDER

INVISIBLE ILLNESS

HOW COMMON IS MENTAL HEALTH ILLNESS?

CAUSES OF MENTAL HEALTH ILLNESS

TREND OF GENERAL DECREASE IN MENTAL HEALTH

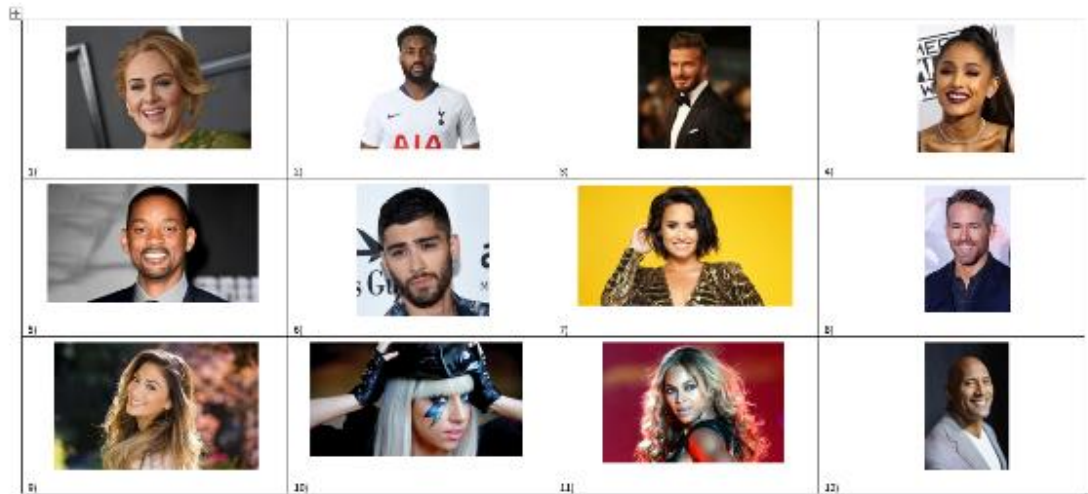
WHAT IS STIGMA?

- A NEGATIVE OPINION, JUDGEMENT OR STEREOTYPE
- OFTEN NOT INTENDED TO BE HURTFUL
- STIGMA CAN LEAD TO PEOPLE NOT SEEKING HELP WITH THEIR MENTAL HEALTH PROBLEMS DUE TO FEAR OF BEING LABELED

UNACCEPTABLE AND ACCEPTABLE WORDS

HOW TO AVOID USING STIGMA

Appendix 14. Component three of mental health promotion intervention (Celebrity Photograph Matching Activity) after the acceptability testing focus group study



Bipolar Disorder	Post-Traumatic Stress Disorder (PTSD)	Depression	Anxiety
Bulimia	Depression	Anxiety	Obsessive Compulsive Disorder (OCD)
Anxiety	Attention Deficit Hyperactivity Disorder (ADHD)	Depression	Panic Attacks

Appendix 15. Advertising statement read by teachers to Year 9 pupils for feasibility and main study

- A researcher from the University of Manchester is interested in working with you for her research
- She is a PhD student who has developed a mental health workshop for Y9 pupils in the Manchester area that you will be doing in December (as part of PSHE – this is compulsory as it is organised by your school already)
- The research will involve the completion of questionnaires before and 1 week after and 3 months after you take part in the mental health promotion workshop
- If you fill in the questionnaires the research team will take this that you are letting them use your answers for their research
- There is no pressure to complete in the questionnaires; you don't have to if you don't want to. You can complete the questionnaire at any time point and not complete the others if you wish.
- You will be asked to write your names on the questionnaire however once all of the questionnaires have been collected you will be assigned a unique number and your name deleted to maintain confidentiality
- If you take part you will be helping the researcher to make sure the workshop is appropriate for Y9 pupils and that it has an positive impact upon them
- I am going to hand out an envelope to you now which you need to give to your parents and an information sheet which is for you. Your parents need to have this information and the option to opt-out of you being part of the research as you are under 16 years of age

Appendix 16. Parent/carer pack cover letter for feasibility and main study

Dear parent/carer,

Your child has the opportunity to be involved in a piece of research for the University of Manchester. There is an information sheet included in this envelope which contains all of the details about the study, along with contact information if you have any more questions. There is also an opt-out consent form included which you only need to complete if you **do not** want your child to take part in the research. The deadline for returning the opt-out consent form is the **FILL IN AS APPROPRIATE**. A stamped, addressed envelope has been included for you to return this. Please allow 2-3 days for postal delivery. A second copy of the opt-out consent form has been supplied for your records only. If you do not return the opt-out consent form it will be taken that you are giving consent for your child to take part in the research.

If you decide to opt-out of consenting for your child to take part in this study this will remain confidential between yourself and the research team - the class teachers at Loreto High School will not be informed. Your child will not be advantaged or disadvantaged by either taking part in the study or not taking part and the research team will not inform them that you have opted-out.

Many thanks,
Emma Williams

PhD student – ‘The development of a peer-led, school-based mental health promotion intervention’

emma.williams-12@postgrad.manchester.ac.uk

Appendix 17. Parent/carer pack participant information sheet for feasibility and main study



Information Sheet

Your child has been invited to take part in a research study. Before you decide whether you would like them to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and discuss it with your child if you wish. Please ask if there is anything that is not clear or if you would like more information. Thank you for taking the time to read this.

About the research

Who will conduct the research?

Emma Williams a PhD student from the Division of Pharmacy and Optometry at The University of Manchester.

What is the purpose of the research?

The aim of the research is to evaluate a mental health promotion workshop for Year 9 pupils in Manchester. Your child will be taking part in the workshop as part of the PSHE curriculum at Loreto High School so this consent process is not about whether your child takes part in the workshop; it is to allow the researcher to collect information via a questionnaire before and after the workshop and use this data in research to assess how effective the workshop is.

Will the outcomes of the research be published?

The outcomes of the research may be published in academic journals or reports, and will also form part of the PhD thesis for Emma Williams.

Disclosure and Barring Service (DBS) Check

Emma Williams, the researcher, has undergone a satisfactory DBS check.

Who has reviewed the research project?

The project has been reviewed by the full University Research Ethics Committee ?

Who is funding the research project?

Health Education England

What would my child's involvement be?

What would my child be asked to do if they took part?

If your child would like to take part we will ask them to volunteer to complete a questionnaire at three points – before the workshop, 1 week after the workshop and 3 months after the workshop. The workshop is during a normal school lesson and all questionnaires will be completed during this time at Loreto High School.

Your child will not be asked to talk about any details of their own personal experience with mental health; all questions will be about the general mental health topics. Some potential topic areas are listed below:

- Knowledge about certain mental health illnesses
- Knowledge about how common mental health illness is in young people and the general population
- Attitudes towards mental health illness
- Stigma towards those with mental health illness/disorder

Before your child completes the questionnaire they will have been given their own information sheet. If they complete the questionnaire it will be taken that they are giving the researchers permission to use their data by implied consent – unless you have completed the opt-out consent form.

If you opt-out your child will still complete the questionnaires but their data will not be used for the research. If you would prefer that your child does not complete the questionnaire at all please contact researcher Emma Williams using the details at the end of this information sheet.

Will my child be compensated for taking part?

Your child will not be paid for taking part in this research.

What happens if my child does not want to take part or if they change their mind?

It is up to your child and yourself to decide whether or not they want to take part. If you do not want your child to take part you must sign the opt-out consent form. If your child decides to take part they are still free to withdraw at any time without giving a reason and without negative consequences to themselves. However, it will not be possible to remove their data from the project once it has been anonymised and forms part of the dataset as we will not be able to identify their specific data. This does not affect their data protection rights.

Data Protection and Confidentiality

What information will you collect about my child?

In order to participate in this research project we will need to collect information that could identify your child, called “personal identifiable information”. Specifically we will need to collect:

- Name
- Gender

Under what legal basis are you collecting this information?

We are collecting and storing this personal identifiable information in accordance with data protection law which protect your rights. These state that we must have a legal basis (specific reason) for collecting your data. For this study, the specific reason is that it is “a public interest task” and “a process necessary for research purposes”.

What are my rights in relation to the information you will collect about my child?

You have a number of rights under data protection law regarding your child’s personal information. For example you can request a copy of the information we hold about your child.

If you would like to know more about your different rights or the way we use your child’s personal information to ensure we follow the law, please consult our Privacy Notice for Research.

Will my child’s participation in the study be confidential and their personal identifiable information be protected?

In accordance with data protection law, The University of Manchester is the Data Controller for this project. This means that we are responsible for making sure your personal information is kept secure, confidential and used only in the way you have been told it will be used. All researchers are trained with this in mind, and your data will be looked after in the following way:

Your child’s participation in the study will be kept confidential to the study team and those with access to your child’s personal information as listed above. Your child’s name will be removed from the data and replaced with a unique ID number. The questionnaires will be anonymised and your child’s name removed from the questionnaire once the data collection process has finished. The questionnaires will be kept for 5 years in a secure, locked cabinet at the University of Manchester. Only the research team will have access to this information.

The study team at the University of Manchester will have access to your child’s personal identifiable information, that is data which could identify your child, but they will anonymise it as soon as practical. If you decide to return the opt-out consent form this will be uploaded onto a secure network drive and kept for 5 years. The original copies will be deleted.

Please also note that individuals from The University of Manchester or regulatory authorities may need to look at the data collected for this study to make sure the project is being carried out as planned. This may involve looking at identifiable data.

All individuals involved in auditing and monitoring the study will have a strict duty of confidentiality to you as a research participant.

What if I have a complaint?

Contact details for complaints

If you have a complaint that you wish to direct to members of the research team, please contact:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

If you wish to make a formal complaint to someone independent of the research team or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact

The Research Governance and Integrity Officer, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

If you wish to contact us about your data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, The University of Manchester, Oxford Road, M13 9PL at the University and we will guide you through the process of exercising your rights.

You also have a right to complain to the [Information Commissioner's Office about complaints relating to your personal identifiable information](#) Tel 0303 123 1113

What Do I Do Now?

If you would like your child to take part then you do not need to complete any forms. If you would not like your child to take part then please complete the opt-out consent form and return one copy to Emma Williams using the stamped, addressed envelope provided.

If you not give consent for your child to take part in the study but your child has assented to taking part in the study, your child will not be informed of this to avoid causing distress or conflict. All of the Y9 pupils will have the option to fill out the questionnaires however if you have chosen to opt-out their names will be matched and their data removed and destroyed.

Contact Details

If you have any queries about the study or if you are interested in taking part then please contact the researcher:

Emma Williams emma.williams-12@postgrad.manchester.ac.uk 0161 2751807

Research Supervisors:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Appendix 18. Parent/carer pack opt-out consent form for feasibility and main study



The University of Manchester

Opt-out Form

The evaluation of a mental health promotion workshop in high schools

If you **do not** want to allow your child to participate in this research please complete and sign the consent form below and return by **FILL IN AS APPROPRIATE** using the stamped, addressed envelope provided.

Parent/Carer (please delete as appropriate)

	Activities	Initials
1	I confirm that I have read the attached information sheet (Version ? , XX/XX/XX) for this study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.	
2	I confirm that I do not wish my child to take part.	

Name of child

Class

Name of the person not giving consent

Date

Signature

Data Protection

The personal information we collect and use to conduct this research will be processed in accordance with data protection law as explained in the Participant Information Sheet and the [Privacy Notice for Research Participants](#).

Please sign both copies of the consent form and keep one for you and return the other to the researcher.

Appendix 19. Recruitment email to parents/carers for feasibility and main study

Dear parent/carers

I am Emma Williams and I am PhD student from the Division of Pharmacy and Optometry at The University of Manchester. Your child has the opportunity to be involved in a piece of research for the University of Manchester. There is an information sheet attached to this email which contains all of the details about the study, along with contact information if you have any more questions.

If you **do not** want your child to take part in the research then please send an email to emma.williams-12@postgraduate.manchester.ac.uk with the statement 'I do not agree to allow my child to take part in this study', along with the name of your child, their class, your name and the date by the **FILL IN AS APPROPRIATE**.

If you decide to opt-out of consenting for your child to take part in this study this will remain confidential between yourself and the research team - the class teachers at Loreto High School will not be informed. Your child will not be advantaged or disadvantaged by either taking part in the study or not taking part and the research team will not inform them that you have opted-out.

Your child will also have brought home physical paper copies of all of the information sheets and opt-out consent forms in parent pack envelopes. There is a physical copy of the opt-out consent form within this along with a stamped, addressed envelope if you would prefer to use this method to opt-out of the research instead of email.

If you neither reply to this email nor send the physical copy of the consent form back to the researcher it will be taken that you are giving consent for your child to take part in the research.

Many thanks,
Emma Williams

PhD student – 'The development of a peer-led, school-based mental health promotion intervention'
emma.williams-12@postgrad.manchester.ac.uk

Appendix 20. Year 9 pupil pack participant information sheet for feasibility and main study



The University of Manchester

The Evaluation of a Mental Health Promotion Workshop

Who is Conducting the Research?

My name is Emma Williams and I work as a researcher at the University of Manchester. I would like to invite you to take part in a research study about evaluating a mental health promotion workshop.

Before you decide if you wish to take part, please make sure that you understand:

1. Why the research is being done
2. What your involvement in the project will be

What is the Purpose of the Research?

The purpose of this research is to help evaluate a mental health promotion workshop that will be delivered to Y9 high school pupils at Loreto High School.

Why this is Important?

Mental health is important for everyone but particularly young people. Globally approximately 1 in 4 young people have an identifiable mental health problem. Mental health can often be improved and managed if people are given the right information and skills to do this.

What is Mental Health Promotion?

Mental health promotion involves helping people to improve and develop their positive mental health. We have developed a mental health promotion workshop for Y9 pupils.

Why Are We Doing Our Research?

The aim of our research is to evaluate a mental health promotion workshop for Y9 pupils. It is very important that the workshop is relevant to your age range and affects you in a positive way so this is why we want you to join this research.

Why Have I Been Asked to Take Part?

We have asked you to take part because you are in Y9 and attend a Loreto High School that will be taking part in the workshop.

What Would I Be Asked to Do if I Take Part?

If you volunteer you will be asked to complete a questionnaire before and after the mental health promotion workshop. You will be completing the workshop as part of your PSHE lessons at school anyway, the research is just about the questionnaires.

If you fill in the questionnaire we will take that to mean that you are letting us use your questionnaire answers in our research.

The questionnaire will ask you questions about general mental health. You will not be asked to talk about any details of your own personal experience of mental health.

The questionnaire will take approximately 5- 10 minutes to complete and you will be asked to complete this on 3 occasions (before and 1 week after and 3 months after the workshop). You do not have to complete all of them if you do not want to and can decide at each time point if you would like to fill out the questionnaire.

Where will the Study Take Place?

The study will take place at Loreto High School.

Will my Participation in the Study be Confidential?

In order to take part in the research we will need to know your name and gender.

Only the research team will have access to your information and we will ensure it is kept safe and secure.

We are keeping this information safe and following data protection law.

The University of Manchester is the Data Controller, which means that we will protect the information about you. All researchers have received training to do this and we will make sure that they keep your information safe.

We will make sure that no one knows you have chosen to take part in the study and will also not share any information you have given to us. To do this we will use a process called anonymising, which means that we will generate a secret code for you and make sure that your name is stored in a different place to the rest of the information you give us. We will also keep the information you give us for [insert number of years in accordance with the UoM retention schedule] years and then it will be safely destroyed.

You have a number of rights under data protection law, including the right to see any of the information you have shared with us. If you would like to know more about your rights or find out the legal reason we collect and use your information, please read through the [Privacy Notice for Research](#) or discuss it with your parent/guardian.

Do I Have to Take Part?

It is completely up to you if you wish to take part in the study. Make sure you think carefully and consider all the information contained in this sheet before you decide.

Your parent/guardian will also read an information sheet and sign a consent form if they also agree for you to take part.

What if I Change my Mind?

You are free to withdraw from the study at any point without having to give a reason. If you decide to withdraw any data already collected will be used in the final analysis. Please remember that your data will be anonymised and you will not be identified in any way.

Who is Organising and Approving the Research?

The research is being sponsored by the University of Manchester and Health Education England. The research has also been approved by the University Research Ethics Committee, a group of people who work to protect your safety, rights, wellbeing and dignity.

What Do I Do Now?

If you would like to take part in the research then please complete the questionnaires when they are handed to you during the workshop in December.

If you have any questions relating to the information contained in this sheet, please let me know:

Emma Williams emma.williams-12@postgrad.manchester.ac.uk 0161 2751807

Research Supervisors:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Thank you for reading this!

Appendix 21. Questionnaire used in feasibility study

ID number
(Researcher use only):

Mental Health Promotion

Pupil questionnaire

We are interested in finding out what you know about mental health and your attitudes and beliefs towards mental health. We are also interested in finding out your views about help-seeking for mental health illness. Please help us by completing this questionnaire!

We are asking Y9 pupils at Loreto High School who are taking part in a mental health promotion workshop to complete this questionnaire. It will only take about 5-10 minutes to complete. We will be asking you to complete the same questionnaire in 1 weeks' time and again in 3 months' time.

Please note that by completing the questionnaire, you are agreeing to take part in this study. You do not need to complete this questionnaire if you do not want to.

Everything you say in this questionnaire will remain confidential. Your name will be matched to a unique number by the researcher and once all the data has been collected for this study your name will be removed from the responses you give to the questions in this questionnaire.

Only the research team will have access to your data and we will ensure it is kept safe and secure. After your responses have been entered onto a secure computer database, the questionnaire and your responses will be securely stored in accordance with data protection regulations and destroyed after five years.

If you would like to know more about the study, please contact the research team: Emma Williams, David Allison or Sarah Willis at The University of Manchester:
emma.williams-12@postgrad.manchester.ac.uk | 0161 2751807
david.allison@manchester.ac.uk | 0161 2752359
sarah.willis@manchester.ac.uk | 0161 2755894

A: KNOWLEDGE AND ATTITUDES ABOUT MENTAL ILLNESS

A1. We are interested in how much you know about mental illness and what you think about those who have mental illness.

Please read each item below and mark the choice that indicates how much you agree or disagree with the statement.

Mark your answer by placing a tick in the circle on each line.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. The treatment of mental illnesses is just as important as the treatment of illnesses such as asthma and diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would be comfortable meeting a person with mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. It would be embarrassing to have a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I have little in common with people who have a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. People with mental illnesses are hurt when others use slang words for their problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I would be frightened if a person with a mental illness approached me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. People with mental illness are able to help others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. A person with a mental illness is able to be a good friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Parents are usually to blame for a child's mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. People with a mental illness tend to be violent and dangerous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. It is ok to make jokes about a mental illness if the jokes are meant to be funny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Keeping people with a mental illness in hospital makes the community a safer place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Pupils with a mental illness should not be allowed in regular class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. People with a mental illness are more likely to lie than other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Most people with severe forms of mental illness do not get better, even with treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. A mental illness can be caused by something genetic or hereditary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Giving medicine is a useful way to treat a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Only people who are weak or overly sensitive let a mental illness affect them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Psychological therapy (for example talking to a psychologist or counsellor) is a useful way to treat mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. People who have had a mental illness include footballers, pop stars and actors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. If I had a mental illness, I would not tell any of my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B: STIGMA AWARENESS AND ACTION

B1. We are interested in finding out about what you know about the negative ways mental illness can be shown and what actions could be taken.

Please read each item below and mark whether you have done or observed the listed activity within the last 6 months

Mark your answer by placing a tick in the circle on each line.

	Yes	No
1. I heard people use slang terms about mental illness like "psycho" or "crazy" to put people down	<input type="radio"/>	<input type="radio"/>
2. I saw mental illness presented in a negative way in a TV programme, movie, newspaper, magazine or online	<input type="radio"/>	<input type="radio"/>
3. I told someone it is wrong to make fun of a person with mental illness	<input type="radio"/>	<input type="radio"/>
4. I told someone I didn't like the way that a mental illness was shown in a TV programme, movie, newspaper, magazine or online	<input type="radio"/>	<input type="radio"/>
5. Children in my school have been left out of activities because they had mental health problems	<input type="radio"/>	<input type="radio"/>
6. I saw children at my school making fun of someone who has a mental health problem	<input type="radio"/>	<input type="radio"/>
7. I made friends with someone who has a mental health problem	<input type="radio"/>	<input type="radio"/>
8. I saw children in my school trying to help other children with their mental health problems	<input type="radio"/>	<input type="radio"/>

C: PERSONAL HELP-SEEKING

C1. We are interested in finding out what you would do if you were having a mental health problem.

Please read each item below and mark whether you have done or observed the listed activity within the last 6 months

Mark your answer by placing a tick in the circle on each line.

	Yes	No
1. I would talk to friends if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
2. I would talk to my parents if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
3. I would talk to my doctor if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
4. I would talk to a priest, minister, rabbi or other religious leader if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
5. I would talk to a school counsellor if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
6. I would talk to a counsellor or other service outside of school if I were having a mental health problem	<input type="radio"/>	<input type="radio"/>
7. I would take medicine if I had a mental health problem	<input type="radio"/>	<input type="radio"/>

D: SOCIAL DISTANCE

D1. We are interested in finding out about what you think about engaging with someone with mental illness.

Please answer the following questions

Mark your answer by placing a tick in the circle on each line.

Would it be ok with you to...	Definitely	Probably	Probably	Definitely
	yes	yes	no	no
1. Have someone with a mental illness as a neighbour?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Sit next to someone with a mental illness in class?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Work on a class project with someone with a mental illness?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Make friends with someone with a mental illness?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Invite someone with a mental illness to your home?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Eat lunch with someone who has a mental illness?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

E: ABOUT YOU

E1. Please print your full name

E2. Please select the gender you identify as from the options below

Male

Female

Other

Thank you for completing the questionnaire!

Appendix 22. Year 9 pupil distress protocol for feasibility and main study

Y9 Distress Protocol

Important Note: This distress protocol is an example specifically related to direct contact with participants. If your study will involve interviewing participants over the phone, via an online medium or utilising online or postal questionnaires you will need to adopt the measures below accordingly. In addition, this document is for example purposes only and the content must be adjusted according to the specific constraints and risks for your study.

Prior to study

If a situation occurs where a parent/guardian does not give consent for their child to take part in the study but the child has assented to taking part in the study, the child will not be informed of this to avoid causing distress or conflict for either party. All of the Y9 pupils will have the option to fill out the questionnaires however if their parent has opted-out the names will be matched and their data removed and destroyed. Prior to commencement of the study, the participants will be given a participant information sheet with details of who to contact if they experience distress **Mrs Knowles or the pastoral team at Loreto High School** and these details will be reiterated again with the participant at the conclusion of the **intervention workshop**.

During the study

Should a participant report or show signs of distress and feeling uncomfortable while participating in the pilot intervention workshop, the following actions will be taken by the class teacher:

Step 1

Suggest that the participant **take a break or leave the intervention workshop**
Ask the participant how they are feeling, listen with empathy and offer support.

Step 2

If the participant would like to continue, **the class teacher will reiterate that the participant can leave the intervention workshop at any time**

If the participant would like to stop or appears highly distressed, follow the actions in **Step 3**.

Step 3

Take the child out of the pilot intervention workshop

Mild distress: Encourage the participant to speak to **Mrs Knowles or the pastoral team at Loreto High School** for support OR offer to do so for the participant.

In all instances the class teacher will seek support from their supervisor/line manager.

Follow-up actions

Offer the participant the opportunity to withdraw from the study and for their data to be destroyed

Recommend the participant contacts **Mrs Knowles or the pastoral team at Loreto High School** if they continue to feel distressed

Appendix 23. Ethical approval form for Year 9 pupils for feasibility study



Research Governance, Ethics and Integrity
 2nd Floor Christie Building
 The University of Manchester
 Oxford Road
 Manchester
 M13 9PL
 Tel: 0161 275 2206/2674
 Email: research.ethics@manchester.ac.uk

Ref: 2018-5295-7617
 23/11/2018

Dear Miss Emma Williams, Dr David Allison, Dr Sarah Willis

Study Title: The evaluation of a mental health promotion intervention

University Research Ethics Committee 2

I write to thank you for submitting the final version of your documents for your project to the Committee on 22/11/2018 20:03. I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and approved by the Committee.

Please see below for a table of the title, version numbers and dates of all the final approved documents for your project:

Document Type	File Name	Date	Version
Additional docs	debrief card	17/10/2018	1
Distress Protocol/Debrief Sheet	Y9 Distress Protocol	17/10/2018	1
Additional docs	Description of workshop content	18/10/2018	1
Data Management Plan	The_evaluation_of_a_mental_health_promotion_intervention	18/10/2018	1
Additional docs	Email from teacher contact about access consent	22/10/2018	1
Additional docs	Email from teacher contact about distress protocol	22/10/2018	1
Advertisement	Advertisement text for teacher	22/11/2018	2
Consent Form	Consent form for parents V2	22/11/2018	2
Additional docs	Email to be sent to parents on 28th November	22/11/2018	2
Additional docs	Cover letter for parents	22/11/2018	2
Additional docs	Advertisement text for teacher	22/11/2018	2
Default	Y9 questionnaire	22/11/2018	2
Participant Information Sheet	Information sheet for Y9 pupils V2	22/11/2018	2
Participant Information Sheet	Information sheet for parents V2	22/11/2018	2
Additional docs	Revisions to Ethics Applications 2	22/11/2018	1

This approval is effective for a period of five years however please note that it is only valid for the specifications of the research project as outlined in the approved documentation set. If the project continues beyond the 5 year period or if you wish to propose any changes to the methodology or any other specifics within the project, an application to seek an amendment must be submitted for review. Failure to do so could invalidate the insurance and constitute research misconduct.

You are reminded that, in accordance with University policy, any data carrying personal identifiers must be encrypted when not held on a secure university computer or kept securely as a hard copy in a location which is accessible only to those involved with the research.

Appendix 24. Ethical approval form for Year 9 pupils for main study



Research Governance, Ethics and Integrity
 2nd Floor Christie Building
 The University of Manchester
 Oxford Road
 Manchester
 M13 9PL
 Tel: 0161 275 2206/2674
 Email: research.ethics@manchester.ac.uk

Ref: 2019-7752-12038
 17/10/2019

Dear Miss Emma Williams, Dr David Allison, Dr Sarah Willis

Study Title: The impact of a mental health promotion intervention on Year 9 high school students

University Research Ethics Committee 1

I write to thank you for submitting the final version of your documents for your project to the Committee on 16/10/2019 13:45. I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and approved by the Committee.

Please see below for a table of the title, version numbers and dates of all the final approved documents for your project:

Document Type	File Name	Date	Version
Distress Protocol/Debrief Sheet	Y9 Distress Protocol	05/07/2019	1
Additional docs	Description of workshop content	05/07/2019	1
Additional docs	1st Email to be sent to parents	05/07/2019	1
Additional docs	2nd Email to be sent to parents on	05/07/2019	1
Additional docs	Cover letter for parents	05/07/2019	1
Additional docs	debrief card	05/07/2019	1
Participant Information Sheet	Information sheet for Y9 pupils	09/07/2019	1
Additional docs	Risk assessment form for lone worker	14/08/2019	1
Additional docs	School email of consent for access	27/08/2019	1
Additional docs	School confirmation of distress protocol procedure	27/08/2019	1
Data Management Plan	The_impact_of_a_mental_health_promotion_intervention_on_Y9_students	15/10/2019	1
Advertisement	Sample text for PSHE: teacher-2	15/10/2019	2
Consent Form	Consent form for parents	15/10/2019	2
Participant Information Sheet	Information sheet for parents	16/10/2019	1
Default	Y9 questionnaire v2	16/10/2019	2
Additional docs	Revisions for ethics application	16/10/2019	1

Appendix 25. Full study results for Chapter 4

Feasibility study results

Knowledge and attitudes about mental illness

The total possible score for the knowledge and attitudes about mental health scale ranges from 21 to 105, with a higher score indicating higher knowledge and a relatively positive attitude. Comparing the scores cross-sectionally, there was an increase between T1 (M=76.30, SD=7.67) and T2 (M=78.85, SD=7.80), but a decrease from T2 to T3 (M=76.82, SD=8.05) although it remained slightly higher than at baseline. When comparing the mean values by gender, male participants had a slightly higher score at baseline compared with female, with a higher score indicating greater knowledge and a more positive attitude. 'Other' participants had the lowest score at T1. Scores for all genders increased from T1 to T2 but this increase was only sustained at T3 for the 'other' category. Female participants had higher scores than male and 'other' participants at both T2 and T3, 'other' participants scored higher than male participants at T3. The mean values are shown below in Table 4.1.

Table 4.1 Total mean values for knowledge and attitudes about mental health scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	76.30 (7.67)	99	77.51 (7.89)	45	76.10 (7.61)	39	69.75 (4.57)	4
T2	78.85 (7.80)	93	78.64 (8.62)	36	79.73 (7.23)	45	71.33 (5.51)	3
T3	76.82 (8.05)	61	75.92 (9.80)	24	77.52 (6.51)	29	76.50 (7.23)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for knowledge and attitudes about mental health between two time points, a statistically significant increase in scores from T1 (M=76.89, SD=6.89) to T2 (M=78.62, SD=7.71), $t(70) = -2.66$, $p < 0.05$ (two-tailed) was found (see Table 4.2). The mean increase in scores was 1.73 with a 95% confidence interval ranging from -3.03 to -0.43. An increase in scores from T1 (M=76.94, SD=7.18) to T3 (M=77.49, SD=7.83), $t(48) = -0.43$, $p > 0.05$ (two-tailed) was also identified, with a mean increase in score of 0.55. There was a decrease in scores from T2 (M=80.21, SD=6.61) to T3 (M=78.33, SD=7.19), $t(42) = 1.59$, $p > 0.05$ (two-tailed). The mean decrease in scores was 1.88.

When looking at scores recorded by male and female participants in the dataset, an increase in scores from T1 (M=78.43, SD=6.35) to T2 (M=78.96, SD=9.03), $t(27) = -0.56$, $p > 0.05$ (two-tailed) was found amongst males. While the mean increase in scores was 0.536 this was not statistically significant. For females there was an increase in scores from T1 (M=77.44, SD=7.084) to T2 (M=79.08, SD=6.50), $t(31) = -1.70$, $p > 0.05$ (two-tailed). While the mean increase in scores was 1.66 this was not statistically significant. For males there was a decrease in scores from T1 (M=80.33, SD=6.068) to T3 (M=77.56, SD=10.35), $t(17) = 1.01$, $p > 0.05$ (two-tailed). While the mean decrease in scores was 2.78 this was not statistically significant. For females there was an increase in scores from T1 (M=75.67, SD=7.323) to T3 (M=77.79, SD=5.437), $t(23) = -1.55$, $p > 0.05$ (two-tailed). While the mean increase in scores was 2.13 this was not statistically significant. For males there was a decrease in scores from T2 (M=82.73, SD=7.166) to T3 (M=77.67, SD=9.49), $t(14) = 1.705$, $p > 0.05$ (two-tailed). While the mean decrease in scores was

5.07 this was not statistically significant. For females there was a decrease in scores from T2 (M=79.17, SD=4.97) to T3 (M=78.83, SD=5.44), $t(22) = 0.45$, $p > 0.05$ (two-tailed). While the mean decrease in scores was 0.348 this was not statistically significant. Overall although both males and females had an increase in score from T1 to T2, only females sustained this increase from T1 to T3. However males scored higher at baseline than females.

Table 4.2 Paired sample t-test for knowledge and attitudes about mental health scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-1.73	5.49	-3.03	-0.43	-2.66	70	0.01	71
	T1 to T3	-0.55	9.39	-3.14	2.04	-0.43	48	0.67	49
	T2 to T3	1.88	7.79	-0.51	4.28	1.59	42	0.12	43
Male	T1 to T2	-0.54	5.10	-2.51	1.44	-0.56	27	0.58	28
	T1 to T3	2.78	11.68	-3.03	8.59	1.01	17	0.33	18
	T2 to T3	5.07	11.51	-1.31	11.44	1.71	14	0.11	15
Female	T1 to T2	-1.66	5.50	-3.64	0.33	-1.70	31	0.98	32
	T1 to T3	-2.13	6.73	-4.97	0.72	-1.55	23	0.14	24
	T2 to T3	0.35	3.70	-1.25	1.95	0.45	22	0.66	23

An independent samples t-test was conducted to compare the knowledge and attitudes towards mental health scores for males and females (see Table 4.3). At T1 there was no significant difference in scores for males (M=77.51, SD =7.89) and females (M=76.10, SD=7.61); $t(82) = 0.83$, $p > 0.05$ (two-tailed). At T2 there was no significant difference in scores for males (M=78.64, SD =8.62) and females (M=79.73, SD=7.23); $t(79) = -0.622$, $p > 0.05$ (two-tailed). At T3 there was no significant difference in scores for males

(M=75.92, SD =9.80) and females (M=77.52, SD=6.51); $t(51) = -0.711$, $p > 0.05$ (two-tailed).

Table 4.3 Independent sample t-test for knowledge and attitudes about mental health scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	1.41	-1.97	4.79	0.83	82	0.41
T2	-1.09	-4.598	2.41	-0.62	79	0.54
T3	-1.60	-6.12	2.92	-0.71	51	0.48

A one-way repeated measures ANOVA was conducted to compare scores at T1, T2 and T3. The means and standard deviations are presented in Table 4.4. There was an effect for time, Wilk's Lambda = 0.86, $F(2, 37) = 3.07$, but this was not significant. For the male data set adjustment was made by applying the Greenhouse–Geisser correction as sphericity was violated. There was no significant effect for time $F(1.31, 15.75) = 1.51$, $p > 0.05$ and multivariate partial eta squared = 0.11. For females again adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was no significant effect for time $F(1.55, 31.03) = 1.85$, $p > 0.05$ and multivariate partial eta squared = 0.09.

Table 4.4 One-way repeated measures ANOVA for knowledge and attitudes towards mental health scale

	All		Male		Female	
Time point	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	78.03 (6.72)	39	82.00 (4.00)	13	76.86 (6.82)	21
T2	80.15 (6.77)	39	83.00 (7.43)	13	79.05 (5.00)	21
T3	78.51 (7.34)	39	78.46 (9.98)	13	78.67 (4.89)	21

Stigma awareness and action

The total possible score on the stigma awareness and action scale can range from 0 to 8, with a lower score indicating a higher level of stigma awareness. Comparing the scores cross-sectionally, there was a decrease between T1 (M=3.75, SD=1.80) and T2 (M=3.52, SD=1.89), but a slight increase from T2 to T3 (M=3.54, SD=1.90) although it remained lower than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with females, 'other' participants had the highest score. Scores for all genders decreased from T1 to T2. This decrease was sustained at T3 for male and 'other' participants but increased (but remained below baseline) for females. 'Other' participants had lower scores than both male and female participants at both T2 and T3. The mean values are shown below in Table 4.5.

Table 4.5 Total mean values for stigma awareness and action scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.75 (1.80)	93	3.93 (1.956)	43	3.55 (1.54)	40	4.75 (2.22)	4
T2	3.52 (1.89)	91	3.77 (1.77)	35	3.43 (1.87)	44	3.00 (2.65)	3
T3	3.54 (1.90)	61	3.75 (1.85)	24	3.52 (1.98)	29	2.75 (0.96)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for stigma awareness and action between two time points, a decrease in scores from T1 (M=3.75, SD=1.82) to T2 (M=3.45, SD=1.82), $t(64) = 1.77$, $p > 0.05$ (two-tailed) was found (see Table 4.6). The mean decrease in scores was 0.13. There was a statistically significant decrease in scores from T1 (M=4.10, SD=1.56) to T3 (M=3.48, SD=1.88), $t(47) = 2.43$, $p < 0.05$ (two-tailed). The mean decrease in scores was 0.63 with a 95% confidence interval ranging from 0.11 to 1.14. There was an increase in scores from T2 (M=3.39, SD=1.68) to T3 (M=3.41, SD=6.62), $t(40) = -0.09$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.02.

When comparing for gender, male participants showed a decrease in scores from T1 (M=3.92, SD=1.98) to T2 (M=3.81, SD=1.72), $t(25) = 0.49$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.12 but this was not statistically significant. For females there was a decrease in scores from T1 (M=3.55, SD=1.57) to T2 (M=3.29, SD=1.81), $t(30) = 1.07$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.26 but this was not statistically significant. For males there was a decrease in scores from T1 (M=4.44, SD=1.72) to T3 (M=3.67, SD=1.85), $t(17) = 1.94$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.78. For females there was a decrease in scores from T1 (M=3.79,

SD=1.44) to T3 (M=3.38, SD=2.00), $t(23) = 1.08$, $p>0.05$ (two-tailed). The mean decrease in scores was 0.417 but this was not statistically significant. For males there was a decrease in scores from T2 (M=3.86, SD=1.75) to T3 (M=3.64, SD=1.95), $t(14) = 1.71$, $p>0.05$ (two-tailed). The mean decrease in scores was 0.214 but this was not statistically significant. For females there was a decrease in scores from T2 (M=3.36, SD=1.76) to T3 (M=3.32, SD=2.08), $t(21) = 0.12$, $p>0.05$ (two-tailed). The mean decrease in scores was 0.05 but this was not statistically significant. Overall both males and females sustained this decrease from T1 to T3. However, females scored lower at all time points than males.

Table 4.6 Paired sample t-test for stigma awareness and action scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	0.13	1.40	-0.40	0.66	1.77	64	0.08	65
	T1 to T3	0.63	1.78	0.11	1.14	2.43	47	0.02	48
	T2 to T3	-0.03	1.68	-0.56	0.51	-0.09	40	0.93	41
Male	T1 to T2	0.12	1.21	-0.37	0.60	0.49	25	0.63	26
	T1 to T3	0.78	1.70	-0.07	1.62	1.94	17	0.07	18
	T2 to T3	0.22	1.48	-0.64	1.07	0.54	13	0.60	14
Female	T1 to T2	0.26	1.34	-0.23	0.75	1.07	30	0.29	31
	T1 to T3	0.42	1.89	-0.38	1.21	1.08	23	0.29	24
	T2 to T3	0.05	1.84	-0.77	0.86	0.12	21	0.91	22

An independent samples t-test was conducted to compare the stigma awareness and action scores for males and females (see Table 4.7). At T1 there was no significant difference in scores for males (M=3.93, SD =1.96) and females (M=3.55, SD=1.54); $t(77)$

= 0.82, $p > 0.05$ (two-tailed). At T2 there was no significant difference in scores for males (M=3.77, SD =1.77) and females (M=3.43, SD=1.87); $t(51) = 0.44$, $p > 0.05$ (two-tailed). At T3 there was no significant difference in scores for males (M=3.75, SD =1.85) and females (M=3.52, SD=1.98); $t(81) = 0.32$, $p > 0.05$ (two-tailed).

Table 4.7 Independent sample t-test for stigma awareness and action scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.34	-0.48	1.16	0.82	77	0.41
T2	0.24	-0.83	1.30	0.44	51	0.66
T3	0.13	-0.64	0.89	0.32	81	0.75

A one-way repeated measures ANOVA was conducted to compare scores at T1, T2 and T3. The means and standard deviations are presented in Table 4.8. There was a significant effect for time, Wilk's Lambda = 0.87, $F(2, 35) = 2.74$, $p < 0.05$. A moderate effect size represented by multivariate partial eta squared = 0.14 was found. For males there was no significant effect for time, Wilk's Lambda = 0.70, $F(2, 11) = 2.40$, $p > 0.05$ and multivariate partial eta squared = 0.304. For females there was no significant effect for time, Wilk's Lambda = 0.97, $F(2,18) = 0.29$, $p > 0.05$ and multivariate partial eta squared = 0.03.

Table 4.8 One-way repeated measures ANOVA for stigma awareness and action scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	4.08 (1.57)	37	4.38 (1.76)	13	3.70 (1.46)	20
T2	3.54 (1.73)	37	3.85 (1.82)	13	3.55 (1.67)	20
T3	3.51 (2.00)	37	3.62 (2.02)	13	3.35 (2.08)	20

Personal help-seeking

The personal help-seeking scale ranged from 0 to 7 with a higher score indicating a greater level of personal help-seeking. Comparing the scores cross-sectionally, there was an increase between T1 (M=3.54, SD=1.78) and T2 (M=4.04, SD=1.80), but a decrease from T2 to T3 (M=3.89, SD=1.83) although it remained slightly higher than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with females. 'Other' participants had the lowest baseline. Male and female participants had an increased score from T1 to T2 whereas the score for 'other' participants decreased. The increase in score was sustained at T3 for male participants but decreased (but remained above baseline) for females. The score for 'other' participants increased at T3 to above baseline. 'Other' participants had lower scores than both male and female participants at both T2 and T3 and 'other' participants had the lowest score at both of these time points. The mean values are shown below in Table 4.9.

Table 4.9 Total mean values for personal help-seeking scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.54 (1.78)	90	3.70 (1.67)	43	3.58 (1.88)	40	2.25 (2.63)	4
T2	4.04 (1.80)	91	4.50 (1.90)	34	3.98 (1.74)	45	1.67 (1.16)	3
T3	3.89 (1.83)	57	4.59 (1.97)	22	3.63 (1.71)	27	3.00 (1.41)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for personal help-seeking between two time points, there was a statistically significant increase in scores from T1 (M=3.61, SD=1.89) to T2 (M=4.21, SD=1.79), $t(61) = -2.66$, $p < 0.05$ (two-tailed) (see Table 4.10).

The mean increase in scores was 0.60 with a 95% confidence interval ranging from -0.98 to -0.22. There was an increase in scores from T1 (M=3.51, SD=1.79) to T3 (M=3.91, SD=1.92), $t(44) = -1.41$, $p > 0.05$ (two-tailed). The increase in scores was 0.4. There was an increase in scores from T2 (M=4.33, SD=1.72) to T3 (M=3.90, SD=1.85), $t(38) = 1.56$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.44.

When comparing for gender, for males there was a statistically significant increase in scores from T1 (M=3.72, SD=1.60) to T2 (M=4.40, SD=1.78), $t(24) = -3.440$, $p < 0.05$ (two-tailed). The mean increase in scores was 0.68 with a 95% confidence interval ranging from -1.09 to -0.27.. For females there was an increase in scores from T1 (M=3.75, SD=2.00) to T2 (M=4.31, SD=1.73), $t(31) = -1.83$, $p > 0.05$ (two-tailed). The mean decrease in scores 0.56 but this was not statistically significant. For males there was an increase in scores from T1 (M=4.00, SD=1.58) to T3 (M=4.59, SD=2.12), $t(16) = -1.16$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.59 but this was not statistically significant. For females there was an increase in scores from T1 (M=3.30, SD=1.82) to T3 (M=3.65, SD=1.75), $t(22) = -0.91$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.348 but this was not statistically significant. For males there was a decrease in scores from T2 (M=5.08, SD=1.73) to T3 (M=4.58, SD=2.15), $t(11) = 0.90$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.5 but this was not statistically significant. For females there was a decrease in scores from T2 (M=4.18, SD=1.59) to T3 (M=3.77, SD=1.69), $t(21) = 1.06$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.409 but this was not statistically significant. Overall both males and females had an increase in score from T1 to T2, and this was sustained to T3 by males but not by females. Generally males scored higher at all time points than females.

Table 4.10 Paired sample t-test for personal help-seeking scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-0.60	1.50	-0.98	-0.22	-2.66	61	0.003	62
	T1 to T3	-0.40	1.90	-0.97	0.17	12.67	44	0.17	45
	T2 to T3	0.44	1.74	-0.13	1.00	13.64	38	0.13	39
Male	T1 to T2	-0.68	0.99	-1.09	-0.27	-3.44	24	0.002	25
	T1 to T3	-0.59	2.09	-1.67	0.49	-1.16	16	0.26	17
	T2 to T3	0.50	1.93	0.73	-1.73	0.90	11	0.39	12
Female	T1 to T2	-0.56	1.17	-1.19	0.07	-1.83	31	0.08	32
	T1 to T3	-0.35	1.82	-1.14	0.44	-0.91	22	0.37	23
	T2 to T3	0.41	1.82	-0.40	1.22	1.06	21	0.30	22

An independent samples t-test was conducted to compare the personal help-seeking scores for males and females (see Table 4.11). At T1 there was no significant difference in scores for males (M=3.70, SD=1.63) and females (M=3.58, SD=1.88); $t(81) = 0.32$, $p > 0.05$ (two-tailed). At T2 there was no significant difference in scores for males (M=4.50, SD =1.90) and females (M=3.98, SD=1.74); $t(77) = 1.27$, $p > 0.05$ (two-tailed). At T3 there was no significant difference in scores for males (M=4.59, SD=1.97) and females (M=3.63, SD=1.71); $t(47) = 1.83$, $p > 0.05$ (two-tailed).

Table 4.11 Independent sample t-test for personal help-seeking scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.13	-0.64	0.89	0.32	81	0.75
T2	0.52	-0.30	1.34	1.27	77	0.21
T3	0.96	-0.10	2.02	1.83	47	0.07

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.12. There was a significant effect for time, Wilk's Lambda = 0.84, $F(2, 32) = 3.06$, $p < 0.05$. A large effect size represented by multivariate partial eta squared = 0.16 was found. Effect size over 0.14 is considered large¹⁸⁸. For males adjustment was made by applying the Greenhouse–Geisser correction as sphericity was violated. There was no significant effect for time $F(1.28, 12.81) = 0.52$, $p > 0.05$ and multivariate partial eta squared = 0.49. For females there was no significant effect for time, Wilk's Lambda = 0.81, $F(2, 18) = 0.21$, $p > 0.05$ and multivariate partial eta squared = 0.19.

Table 4.12 One-way repeated measures ANOVA for personal help-seeking scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	3.62 (1.95)	34	4.45 (1.57)	11	3.30 (1.92)	20
T2	4.38 (1.76)	34	5.00 (1.79)	11	4.25 (1.65)	20
T3	3.94 (1.94)	34	4.55 (2.25)	11	3.75 (1.77)	20

Social distance

The social distance scale ranged from 6 to 24 with a lower score indicating a decreased likelihood to distance from someone with a mental health illness or disorder. Comparing the scores cross-sectionally, there was an increase between T1 (M=18.00, SD=4.85) and T2 (M=18.68, SD=4.01), but a decrease from T2 to T3 (M=11.33, SD=3.50). When comparing the mean values by gender, male participants had a slightly lower baseline score compared with female and 'other' participants. The score for male participants decreased from T1 to T2 but the score for female participants increased and 'other' participants remained the same. All gender categories had a decreased score at T3 compared to T1 and T2. At T2 males had the lowest score yet at T3 females had the lowest score. The mean values are shown below in Table 4.13.

Table 4.13 Total mean values for social distance scale at all three time points by gender

Time point	All		Male		Female		Other	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	18.00 (4.85)	90	17.63 (4.97)	43	18.58 (4.44)	40	19 (5.94)	4
T2	18.68 (4.01)	91	17.32 (4.26)	34	19.82 (3.70)	45	19 (4.58)	3
T3	11.33 (3.50)	60	11.61 (3.76)	23	10.97 (3.70)	29	11.50 (4.44)	4

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for social distance between two time points, an increase in scores were shown from T1 (M=18.52, SD=4.490) to T2 (M=18.66, SD=3.789), $t(63) = -0.422$, $p > 0.05$ (two-tailed) was found (see Table 4.14). The mean increase in scores was 0.14 with a 95% confidence interval ranging from -0.81 to 0.53. There was a statistically significant decrease in scores from T1 (M=18.54, SD=4.329) to T3 (M=10.96, SD=3.313), $t(45) = 8.56$, $p < 0.05$ (two-tailed). The increase in scores was

7.59 with a 95% confidence interval ranging from 5.80 to 9.37. A statistically significant decrease in scores was shown from T2 (M=18.98, SD=3.119) to T3 (M=11.10, SD=3.392), $t(41) = -9.90$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.88 with a 95% confidence interval ranging from 6.27 to 9.49.

When comparing for gender, male participant showed a decrease in scores from T1 (M=17.56, SD=15.265) to T2 (M=17.52, SD=4.061), $t(26) = 0.07$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.11 but this was not statistically significant. For females there was an increase in scores from T1 (M=19.41, SD=3.59) to T2 (M=19.56, SD=3.45), $t(31) = -0.32$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.16 but this was not statistically significant. For males there was a statistically significant decrease in scores from T1 (M=18.71, SD=3.885) to T3 (M=10.94, SD=3.473), $t(16) = 5.63$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.77 with a 95% confidence interval ranging from 4.84 to 10.69. For females there was a statistically significant decrease in scores from T1 (M=19.00, SD=3.93) to T3 (M=10.79, SD=3.27), $t(23) = 7.32$, $p < 0.05$ (two-tailed). The mean decrease in scores was 8.21 with a 95% confidence interval ranging from 5.89 to 10.53. For males there was a statistically significant decrease in scores from T2 (M=19.07, SD=3.149) to T3 (M=11.36, SD=4.05), $t(13) = 5.11$, $p < 0.05$ (two-tailed). The mean decrease in scores was 7.72 with a 95% confidence interval ranging from 4.45 to 10.98. For females there was a statistically significant decrease in scores from T2 (M=19.17, SD=3.24) to T3 (M=10.61, SD=2.86), $t(22) = 8.73$, $p < 0.05$ (two-tailed). The mean decrease in scores was 8.57 with a 95% confidence interval ranging from 6.53 to 10.63. Overall females had an increase in score from T1 to T2 but a significant decrease in score from T1 to T3 and from T2 to T3. Males had a decrease in score at all time points however this was significant from T1 to T3 and T2 to T3.

Table 4.14 Paired sample t-test for social distance scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	-0.14	2.67	-0.81	0.53	-0.42	63	0.67	64
	T1 to T3	7.59	6.01	5.80	9.37	8.56	45	0.00	46
	T2 to T3	7.88	5.16	6.27	9.49	9.90	41	0.00	42
Male	T1 to T2	0.04	2.70	-1.03	1.10	0.07	26	0.94	27
	T1 to T3	7.77	5.69	4.84	10.69	5.63	16	0.00	17
	T2 to T3	7.72	5.65	4.45	10.98	5.11	13	0.00	14
Female	T1 to T2	-0.16	2.77	-1.16	0.84	-0.32	31	0.75	32
	T1 to T3	8.21	5.49	5.89	10.53	7.32	23	0.00	24
	T2 to T3	8.57	4.71	6.53	10.60	8.73	22	0.00	23

An independent samples t-test was conducted to compare the social distance scores for males and females (see Table 4.15). At T1 there was no significant difference in scores for males (M=17.63, SD =4.97) and females (M=18.58, SD=4.44); $t(81) = -0.91, p > 0.05$ (two-tailed). At T2 there was a significant difference in scores for males (M=17.32, SD =4.26) and females (M=19.82, SD=3.70); $t(77) = -2.79, p < 0.05$ (two-tailed). At T3 there was no significant difference in scores for males (M=11.61, SD =3.76) and females (M=10.97, SD=3.35); $t(50) = 0.65, p > 0.05$ (two-tailed).

Table 4.15 Independent sample t-test for social distance scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	-0.95	-3.01	1.12	-0.91	81	0.36
T2	-2.5	-4.29	-0.71	-2.79	77	0.01
T3	0.65	-1.34	2.63	0.65	50	0.51

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.16. Adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. A significant effect for time was shown $F(1.38, 49.82) = 80.74, p < 0.05$. A large effect size represented by multivariate partial eta squared = 0.69 was found. For males adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was a significant effect for time $F(1.19, 14.29) = 28.46, p < 0.05$ and multivariate partial eta squared = 0.70. For females adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was a significant effect for time $F(1.61, 32.20) = 54.75, p < 0.05$ and multivariate partial eta squared = 0.73.

Table 4.16 One-way repeated measures ANOVA for social distance scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	19.05 (3.76)	37	19.08 (3.75)	13	19.38 (3.65)	21
T2	19.11 (3.20)	37	19.31 (3.15)	13	19.19 (3.39)	21
T3	10.70 (3.24)	37	10.77 (3.54)	13	10.57 (2.978)	21

Main study results

The feasibility study established the overall repeated measures study design using a survey distributed at three time points was appropriate however some of the methods and tools within the design needed modification. Procedures for recruitment and data collection were on the whole appropriate however the data collection tool (the SAQ) was modified and EW also visited the school during the recruitment process as an additional step. The same approach was taken to gaining consent.

Following revisions to the SAQ described in Section 4.5, the main study SAQ contained three measures; measure one collected qualitative data to capture the words used to describe mental health, measure two was the same measure used to capture data about knowledge and attitudes about mental health and measure three was the new measure to collect data in relation to public stigma. The first round of data collection (T1) took place in November 2019 immediately before the MHP intervention delivery, the second round (T2) in December 2019 approximately one week after the MHP intervention delivery and the third round (T3) in March 2020 approximately 3 months after the MHP intervention delivery.

Knowledge and attitudes about mental illness

The knowledge and attitudes about mental health scale ranged from 21 to 105 with a higher score indicating higher knowledge and a more positive attitude. Comparing the scores cross-sectionally, there was a decrease between T1 (M=77.96, SD=8.10) and T2 (M=77.78, SD=9.75), but an increase from T2 to T3 (M=77.90, SD=8.56) although it did not return to baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with female. Female scores increased

from T1 to T2 but male scores slightly decreased. This increase in score was sustained at T3 for female participants but further decreased for males. Female participants had higher scores than males at both T2 and T3. The mean values are shown below in Table 4.17.

Table 4.17 Total mean values for knowledge and attitudes about mental health scale at all three time points by gender

	All		Male		Female	
Time point	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	77.96 (8.10)	120	78.02 (7.38)	66	77.89 (8.97)	54
T2	77.78 (9.75)	104	77.55 (9.81)	60	78.09 (9.76)	44
T3	77.90 (8.56)	99	76.89 (8.34)	56	79.21 (8.77)	43

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for knowledge and attitudes about mental health between two time points, an increase in scores from T1 (M=78.18, SD=7.97) to T2 (M=78.31, SD=9.25), $t(93) = -0.11$, $p > 0.05$ (two-tailed) was found (see Table 4.18). The mean increase in scores was 0.13 but this was not statistically significant. There was an increase in scores from T1 (M=78.57, SD=7.61) to T3 (M=78.81, SD=8.39), $t(85) = -0.14$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.24. There was a decrease in scores from T2 (M=78.59, SD=8.615) to T3 (M=77.93, SD=8.67), $t(70) = 0.46$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.66 but this was not statistically significant.

For males there was a decrease in scores from T1 (M=78.44, SD=6.86) to T2 (M=78.19, SD=8.92), $t(51) = 0.161$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.25 but this was not statistically significant. For females there was an increase in scores from T1

(M=77.86, SD=9.23) to T2 (M=78.45, SD=9.74), $t(41) = -0.31$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.595 but this was not statistically significant. For males there was a decrease in scores from T1 (M=77.81, SD=6.85) to T3 (M=77.27, SD=8.41), $t(47) = 0.45$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.54 but this was not statistically significant. For females there was an increase in scores from T1 (M=79.53, SD=8.46) to T3 (M=80.53, SD=8.120), $t(37) = -0.59$, $p > 0.05$ (two-tailed). The mean increase in scores was 1.00 but this was not statistically significant. For males there was a decrease in scores from T2 (M=78.66, SD=8.12) to T3 (M=77.10, SD=8.41), $t(40) = 0.85$, $p > 0.05$ (two-tailed). The mean decrease in scores was 1.56 but this was not statistically significant. For females there was an increase in scores from T2 (M=78.50, SD=9.39) to T3 (M=79.07, SD=9.03), $t(29) = -0.24$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.57 but this was not statistically significant. Overall females had an increase in score from T1 to T2, which was sustained to T3. Males had a decrease in score for all pairs of data.

Table 4.18 Paired sample t-test for knowledge and attitudes about mental health scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	- 0.13	11.73	-2.53	2.28	-0.11	93	0.92	94
	T1 to T3	-0.14	9.30	-2.13	1.85	-0.14	85	0.89	86
	T2 to T3	0.66	12.11	-2.20	3.53	0.46	70	0.65	71
Male	T1 to T2	0.25	11.22	-2.87	3.37	0.16	51	0.87	52
	T1 to T3	0.54	8.27	-1.86	2.94	0.45	47	0.65	48
	T2 to T3	1.57	11.70	-2.13	5.26	0.85	40	0.40	41
Female	T1 to T2	-0.59	12.46	-4.47	3.29	-0.31	41	0.76	42
	T1 to T3	-1.00	10.50	-4.45	2.45	-0.58	37	0.56	38
	T2 to T3	-0.57	12.73	-5.32	4.19	-0.24	29	0.89	30

An independent samples t-test was conducted to compare the knowledge and attitudes towards mental health scores for males and females (see Table 4.19). At T1 there was no significant difference in scores for males (M=78.02, SD =7.38) and females (M=77.89, SD=8.97); $t(118) = 0.09, p > 0.05$ (two-tailed). At T2 there was no significant difference in scores for males (M=77.55, SD =9.81) and females (M=78.09, SD=9.76); $t(102) = -0.28, p > 0.05$ (two-tailed). At T3 there was no significant difference in scores for males (M=76.69, SD =8.42) and females (M=79.21, SD=8.77); $t(102) = -1.44, p > 0.05$ (two-tailed).

Table 4.19 Independent sample t-test for knowledge and attitudes about mental health scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	0.13	-2.83	3.08	0.09	118	0.93
T2	-0.55	-4.40	3.31	-0.28	102	0.78
T3	-2.51	-6.00	0.98	-1.44	95	0.15

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.20. There was no significant effect for time, Wilk's Lambda = 0.10, $F(2, 64) = 0.05$, $p > 0.05$ and multivariate partial eta squared = 0.002. For males there was no significant effect for time, Wilk's Lambda = 0.10, $F(2, 36) = 0.211$, $p > 0.05$ and multivariate partial eta squared = 0.01. For females there was no significant effect for time, Wilk's Lambda = 0.10, $F(2, 26) = 0.02$, $p > 0.05$ and multivariate partial eta squared = 0.002.

Table 4.20 One-way repeated measures ANOVA for knowledge and attitudes about mental health scale by gender

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	78.73 (7.57)	66	78.18 (6.55)	38	79.46 (8.86)	28
T2	79.00 (8.40)	66	78.95 (7.80)	38	79.07 (9.30)	28
T3	78.53 (8.42)	66	77.78 (8.16)	38	79.57 (8.81)	28

The public stigma scale ranged from 9 to 72 with a lower score indicating less public stigma towards people with mental health illness or disorder. Comparing the scores cross-sectionally, there was an increase between T1 (M=22.05, SD=7.89) and T2 (M=22.13, SD=9.46), but a decrease from T2 to T3 (M=21.65, SD=8.72) to lower than baseline. When comparing the mean values by gender, male participants had a slightly higher baseline score compared with female. Females score increased slightly from T1 to T2 and males remained the same. Female scores decreased to below baseline at T3 but male scores increased. Female participants had lower scores than males at both T2 and T3. The mean values are shown below in Table 4.21.

Table 4.21 Total mean values for public stigma scale at all three time points

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	22.05 (7.89)	120	22.71 (8.55)	66	21.24 (7.00)	54
T2	22.13 (9.46)	100	22.71 (10.09)	59	21.29 (8.52)	41
T3	21.65 (8.72)	96	22.85 (9.94)	54	20.10 (6.63)	42

When comparing the scores longitudinally, using a paired samples t-test to evaluate the impact of the MHP intervention on the SAQ scores for public stigma a decrease in scores from T1 (M=22.28, SD=7.71) to T2 (M=21.98, SD=8.42), $t(89) = 0.47$, $p > 0.05$ (two-tailed) was shown (see Table 4.22). The mean decrease in scores was 0.30. There was a decrease in scores from T1 (M=21.78, SD=7.67) to T3 (M=21.14, SD=7.77), $t(82) = 0.55$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.64 but this was not statistically significant. There was a decrease in scores from T2 (M=21.56, SD=9.58) to T3 (M=20.81, SD=1.02), $t(67) = 0.497$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.750 but this was not statistically significant. For males there was a decrease in scores from T1

(M=22.73, SD=8.40) to T2 (M=22.12, SD=8.52), $t(50) = -0.86$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.608 but this was not statistically significant. For females there was an increase in scores from T1 (M=21.69, SD=6.77) to T2 (M=21.79, SD=8.39), $t(38) = -0.90$, $p > 0.05$ (two-tailed). The mean increase in scores was 0.10 but this was not statistically significant.

For males there was a decrease in scores from T1 (M=22.93, SD=8.43) to T3 (M=21.80, SD=8.55), $t(45) = 0.74$, $p > 0.05$ (two-tailed). The mean decrease in scores was 1.130 but this was not statistically significant. For females there was a decrease in scores from T1 (M=20.35, SD=6.43) to T3 (M=20.32, SD=6.70), $t(36) = 0.15$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.03 but this was not statistically significant. For males there was a decrease in scores from T2 (M=22.54, SD=10.45) to T3 (M=21.67, SD=9.23), $t(38) = 0.43$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.87 but this was not statistically significant. For females there was a decrease in scores from T2 (M=20.24, SD=8.26) to T3 (M=19.66, SD=7.22), $t(28) = 0.59$, $p > 0.05$ (two-tailed). The mean decrease in scores was 0.59 but this was not statistically significant. Overall males had a decrease in score from T1 to T2, but females had an increase. For T1 to T3 and T2 to T3 pairs, males had a larger decrease comparatively to females. Females had a lower baseline than males.

Table 4.22 Paired sample t-test for public stigma scale by gender

Gender	Pairs	Mean	Standard deviation	95% confidence interval of the difference		t	df	Sig. (2-tailed)	N
All	T1 to T2	0.30	6.01	-0.96	1.56	0.47	89	0.64	90
	T1 to T3	0.64	10.63	-1.68	2.96	0.55	82	0.59	83
	T2 to T3	0.75	12.45	-2.26	3.76	0.50	67	0.62	68
Male	T1 to T2	0.61	5.03	-0.81	2.02	0.86	50	0.39	51
	T1 to T3	1.14	10.42	-1.96	4.23	0.74	45	0.47	46
	T2 to T3	0.87	12.68	-3.24	4.98	0.43	38	0.67	39
Female	T1 to T2	-0.11	7.14	-2.42	2.21	-0.90	38	0.93	39
	T1 to T3	0.03	11.00	-3.64	3.70	0.15	36	0.99	37
	T2 to T3	0.59	12.35	-4.11	5.28	0.26	28	0.80	29

An independent samples t-test was conducted to compare the public stigma scores for males and females (see Table 4.23). At T1 there was no significant difference in scores for males ($M=22.71$, $SD=8.55$) and females ($M=21.24$, $SD=7.00$); $t(118) = 1.02$, $p>0.05$ (two-tailed). At T2 there was no significant difference in scores for males ($M=22.71$, $SD=10.09$) and females ($M=21.29$, $SD=8.52$); $t(98) = 0.74$, $p>0.05$ (two-tailed). At T3 there was no significant difference in scores for males ($M=22.58$, $SD=9.83$) and females ($M=20.10$, $SD=6.63$); $t(92) = 1.40$, $p>0.05$ (two-tailed).

Table 4.23 Independent sample t-test for public stigma scale by gender

Time point	Mean difference	95% confidence interval of the difference		t	df	Sig. (2-tailed)
T1	1.47	-1.40	4.40	1.02	118	0.31
T2	1.42	-2.41	5.24	0.74	98	0.46
T3	2.48	-1.04	6.01	1.40	92	0.17

A one-way repeated measures ANOVA was conducted to compare scores from the SAQ at T1, T2 and T3. The means and standard deviations are presented in Table 4.24. Adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. A significant effect for time was not shown $F(1.48, 58.39) = 0.962, p > 0.05$. For males adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was no significant effect for time $F(1.37, 48.20) = 0.20, p > 0.05$ and multivariate partial eta squared = 0.03. For females adjustment was made by applying the Greenhouse –Geisser correction as sphericity was violated. There was no significant effect for time $F(1.54, 40.01) = 0.14, p > 0.05$ and multivariate partial eta squared = 0.01.

Table 4.24 One-way repeated measures ANOVA for public stigma scale

Time point	All		Male		Female	
	Mean (SD)	N	Mean (SD)	N	Mean (SD)	N
T1	21.94 (6.99)	63	22.89 (7.97)	36	20.67 (5.29)	27
T2	21.24 (7.95)	63	21.50 (7.91)	36	20.89 (8.14)	27
T3	20.29 (6.89)	63	20.58 (6.86)	36	19.89 (7.06)	27

Appendix 26. Questionnaire used in main study

MANCHESTER
1824

The University of Manchester

ID number
(Researcher use only):

Mental Health Promotion

Pupil questionnaire

We are interested in finding out what you know about mental health and your attitudes and beliefs towards mental health. We are also interested in finding out your views about help-seeking for mental health illness. Please help us by completing this questionnaire!

We are asking Y9 pupils at Loreto High School who are taking part in a mental health promotion workshop to complete this questionnaire. It will only take about **10-15 minutes** to complete. We will be asking you to complete the same questionnaire in 1 weeks' time and again in 3 months.

Please note that by completing the questionnaire, you are agreeing to take part in this study. You do not need to complete this questionnaire if you do not want to.

Everything you say in this questionnaire will remain confidential. Your name will be matched to a unique number by the research team and once all the data has been collected for this study your name will be removed from the responses you give to the questions in this questionnaire.

Only the research team will have access to your data and we will ensure it is kept safe and secure. After your responses have been entered onto a secure computer database, the questionnaire and your responses will be securely stored in accordance with data protection regulations and destroyed after five years.

If you would like to know more about the study, please contact the research team: Emma Williams, David Allison or Sarah Willis at The University of Manchester:

emma.williams-12@postgrad.manchester.ac.uk | 0161 2751807

david.allison@manchester.ac.uk | 0161 2752359

sarah.willis@manchester.ac.uk | 0161 2755894

A: ABOUT YOU

A1. Please print your full name

A2. Please select the gender you identify with from the options below

Male

Female

Other

B

B. We are interested in finding out your views about mental health illness.

Please answer the question below

B1. What sorts of words or phrases might you use to describe someone who experiences mental health problems?

If anything in this questionnaire has caused you distress or upset then please contact the research team using the details on the front page or have a look at the contact numbers on the 'It's ok not to be ok' card provided

C: KNOWLEDGE AND ATTITUDES ABOUT MENTAL ILLNESS

C. We are interested in how much you know about mental illness and what you think about those who have mental illness.

Please read each item below and mark the choice that indicates how much you agree or disagree with the statement.

Mark your answer by placing a tick in the circle on each line.

	Strongly agree	Agree	Disagree	Strongly disagree
1. The treatment of mental illnesses is just as important as the treatment of illnesses such as asthma and diabetes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would be comfortable meeting a person with mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. It would be embarrassing to have a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I have little in common with people who have a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. People with mental illnesses are hurt when others use slang words for their problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I would be frightened if a person with a mental illness approached me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. People with mental illness are able to help others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. A person with a mental illness is able to be a good friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Parents are usually to blame for a child's mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. People with a mental illness tend to be violent and dangerous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. It is ok to make jokes about a mental illness if the jokes are meant to be funny	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Keeping people with a mental illness in hospital makes the community a safer place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Pupils with a mental illness should not be allowed in regular class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. People with a mental illness are more likely to lie than other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Most people with severe forms of mental illness do not get better, even with treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. A mental illness can be caused by something genetic or hereditary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Giving medicine is a useful way to treat a mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Only people who are weak or overly sensitive let a mental illness affect them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Psychological therapy (for example talking to a psychologist or counsellor) is a useful way to treat mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. People who have had a mental illness include footballers, pop stars and actors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. If I had a mental illness, I would not tell any of my friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If anything in this questionnaire has caused you distress or upset then please contact the research team using the details on the front page or have a look at the contact numbers on the 'It's ok not to be ok' card provided

D: STIGMA AWARENESS AND ACTION

D. We are interested in finding out about what you know about the negative ways mental illness can be shown and what actions could be taken.

Mark your answer by placing a tick in the circle on each line.

There is a new student in your class. Before the new student's first day your teacher explained that the student is mentally ill and transferring from a special school. (Corrigan and Watson, 2007)

- I would feel pity for the new student

 None at all Very Much
- How dangerous would you feel the new student is?

 None at all Very Much
- How scared of the new student would you feel?

 None at all Very Much
- I think the new student is to blame for the mental illness

 None at all Very Much
- I think the new student should be in a special class for children with problems

 None at all Very Much
- How angry would you feel at the new student?

 None at all Very Much
- How likely is it that you would help the new student with school work?

 Definitely would not help Definitely would help
- I would try to stay away from the new student after school

 None at all Very Much

If anything in this questionnaire has caused you distress or upset then please contact the research team using the details on the front page or have a look at the contact numbers on the 'It's ok not to be ok' card provided

**Appendix 27. Tabulated results of T1, T2 and T3 respectively for the mental health descriptions
measure within main study SAQ**

Emotions 16 terms (15%) 87 uses (36%)	Characteristics 16 terms (15%) 20 uses (8%)	Labels 21 terms (20%) 32 uses (14%)	Suggested causes 15 terms (14%) 22 uses (9%)	Medical terms 12 terms (11%) 43 uses (18%)	Sensitive descriptions 20 terms (19%) 29 uses (12%)	Methods to improve metal health 6 terms (6%) 6 uses (3%)
Depressed (19)	Struggling (3)	Mentally unstable (3)	Bullying (3)	Anxiety (14)	Require help (5)	A doctor
Sad (16)	Keep to themselves (2)	Crazy (3)	Stress (3)	Depression (10)	Special (3)	Do activities every day
Lonely (13)	Covers up how they are feeling (2)	Random (2)	Mentally abused (3)	Disabled (4)	A human (2)	Footsal
Upset (10)	Alone	Special (2)	Low self-esteem (2)	Autistic (4)	Unique (2)	Therapy and activities to do every day
Unhappy (6)	Anti-social	Weak (2)	Friendship problems	Mentally ill (2)	Normal (2)	Understanding
Anxious (5)	Struggle meeting new people	Anger issues (2)	Dealing with something	Suicide (2)	We are all the same	Are you alright
Self-conscious (4)	Need attention	Psycho (2)	Going through something hard	Illness (2)	Everyone deserves guidance of getting help at rough times	
Troubled (3)	Normally have problems	Unstable (2)	Bullying online	Post-traumatic Stress Disorder	A normal person	
Uncomfortable (2)	Struggle to cope in society	Special needs (2)	All types of feelings	Self-harm	Non-harsh words	
Scared (2)	Different mind set	Retarded	Dealing with problems	Dyslexic	Kind	
Angry (2)	Lots of mood swings	Depressing	Relationship problems	An ill person	Relaxed	
Confused	Remain silent about how they are feeling	Less-able	Physical abuse	A mentally ill person	Easy going	
Stressed	Only unhappy when you want to be	In need of help	Been through a tough time mentally		Very special people	
Dejected	Suffering	Crazy	Worrying		It is not their fault	
Emptiness	Difficulty talking to people	Weird	Low self-confidence		Still normal with mental health	
Under the weather	Likes to suffer alone	Special			Want to be fine again	
		Needy			Different	
		Different			Strong	
		Deeply disturbed			Its ok not to be ok	
		Mental			Its ok to open up	
		Fixable				

Emotions 12 terms (18%) 45 uses (31%)	Characteristics 8 terms (12%) 10 uses (7%)	Labels 5 terms (8%) 9 uses (5%)	Suggested causes 3 terms (4.5%) 3 uses (2%)	Medical terms 17 terms (26%) 43 uses (30%)	Sensitive descriptions 18 terms (27%) 32 uses (22%)	Methods to improve mental health 3 terms (4.5%) 3 uses (2%)
Depressed (17)	Require extra support (2)	Unstable (3)	Mentally abused	Anxiety (11)	Special (7)	I would tell them to get help
Sad (8)	Need attention (2)	Mentally unstable (3)	Bullying	Depression (7)	Unique (4)	Try to console them
Lonely (4)	Has a lot going on	Mental	Stress	Eating disorder (3)	Different (3)	Its ok not to be ok
Anxious (4)	Quiet	Needs help	Made fun of	Mentally ill (3)	Normal (3)	
Upset (3)	Trouble opening up	Depressing	Cast away from society	OCD (2)	Unfairly treated (2)	
Unhappy (2)		Fixable	Low self-esteem	PTSD (2)	Equal (2)	
Scared (2)				Not well (2)	Can be treated with therapy	
Under the weather				Panic attacks (2)	Happy	
Miserable				Anorexic (2)	Misunderstood	
Angry				Disabled (2)	I would treat them like everyone else	
Self-conscious				Autism	Relaxed	
Troubled				Dyslexia	Survivor	
				ADHD	Just because you have mental health doesn't mean you are dangerous or crazy	
				Bipolar	Nice	
				Mentally sick	Just like the rest of us	
				Panic attacks	Mental health does not define a person	
				Unhealthy	Someone who is going through problems that we don't see	

<u>Emotions</u> 21 terms (24%) 86 uses (41.3%) How feel	<u>Characteristics</u> 11 terms (13%) 24 uses (11.5%) How act	<u>Labels</u> 13 terms (15%) 14 uses (6.7%)	<u>Suggested causes</u> 4 terms (5%) 6 uses (3%)	<u>Medical terms</u> 15 terms (17.5%) 36 uses (17.5%)	<u>Sensitive descriptions</u> 22 terms (25.5%) 42 uses (20%)	<u>Methods to improve metal health</u> 0 terms
Depressed (21)	Alone (5)	Mentally unstable (2)	Struggling with problems (2)	Anxiety (6)	Normal (6)	
Sad (13)	Isolated (5)	No personality	Having insecurities (2)	Depression (6)	Needing help (4)	
Troubled (8)	Shy (4)	Dull inside	Overthinking	Mentally ill (4)	Different (4)	
Anxious (7)	Withdrawn (3)	Weird	Going through things	Disabled (3)	Special (3)	
Lonely (6)	Overthinking	Mentally disabled		ADHD (3)	Unique (3)	
Stressed (6)	Uncontrollable	Disturbed		Bipolar (3)	Brave (2)	
Upset (5)	Fine but covering it up	Unfixable		PTSD (2)	Equal (2)	
Sad (3)	Hard to socialise	Special		Ill (2)	Stronger (2)	
Angry (3)	Hard to concentrate	Broken		Schizophrenia	A person who is struggling with their mental health	
Scared (2)	Difficult doing everyday things	Difficult		Hallucinations	Fun	
Nervous (2)	Quiet	Crazy		Autism	People going through problems you can't see	
Left out		Scary		Unwell	People will stereotype them for their mental health issues	
Insecure		Different		Self-harm	Survivor	
Empty				Suicidal	Intelligent	
Unhappy				DID disorder	Needing comfort	
Worried					They are the same	
Down					Just cause they have mental health illness does not mean they are any different	
Lost					A person with mental health problems	
Confused					In need	
Tired					Determined	
Helpless					My Dad	
					My best friend	

Appendix 28. Training guide for MPharm students

Mental Health Promotion workshop Prezi

Anything in **red** is an important thing that you **must** say and anything **highlighted** is an activity to be completed.

All the timings are approximate to guide you but you will need to use your judgement!
Before you start the workshop please ask the Y9 pupils to fill in the questionnaires (you will need to hand them out – they are in your resource pack). Give them 5- 10 minutes to do this and then collect them in before you start the rest of the workshop. Please make sure they complete all sections of the questionnaire and write their names on the back section (this is very important). Remind them that I will anonymise their questionnaires – I only need the name to check against opt-out forms from parents.

Slide 1 – Learning objectives (2 mins)

Introduce yourselves and say 3rd year pharmacy students from University of Manchester. You have come to talk to them today about mental health.

Tell the class that mental health can be quite a sensitive topic so everyone needs to be respectful of each other at all times throughout the workshop. Tell the class that if they feel they need to leave at any point to let either one of you or the teacher know and they will be allowed (the teacher will take the lead here and follow the distress protocol they have been provided with).

Run through learning objectives

Slide 2 -True or False quiz (4 mins)

Get them to complete the questions on their own (2 mins) and then run through each question asking the class for feedback (2 mins)

Slide 3 – What is mental health (1 min)

Run through the bullet points

For the last one expand a bit more and say that the same way we all have physical health we all have mental health. Tell them mental health runs along a scale from good health to mental health illness/disorders. This leads on to the next frame / slide.

Slide 4 – Mental health continuum

Briefly describe the continuum – it is from Mental Health First Aid England

Tell them it can go from no diagnosis but very poor mental health to serious diagnosis but good mental health, and everything in between. **Highlight that people can get better from mental health illness with treatment, even in severe cases.**

Highlight that stigma (something you will talk more about later) can cause people to move along the scale.

Slide 5 – Mental health illness (2 mins)

Say so for this next section we are going to be focussing on mental health illness

Can anyone name any mental health illnesses? Get them to shout out a few before revealing

Say this **isn't an exhaustive list but it is the most common ones** – make a comment about there being lots of different types of mental health illness and that they can also be combined.

Autism (you only need to go through this if you have been told there are children with autism in your class):

The reason autism is on the list of mental health disorders is that it is diagnosed by the CAMHS (child and adolescent mental health service) team

Explain that there is a lot of debate as to whether autism is a mental health disorder or not so this is just to say why it is on the list

Slide 6 - Invisible illness **Celebrity photo matching** (10 mins)

Make the point that mental health is an **invisible illness** – you can't tell just by looking at someone what is going on therefore we always need to **be open, non-judgemental and caring to everyone.**

Get them to work through the worksheet matching celebrities to their mental health illness. **Tell them that sometime people, including the celebrities, can have more than one mental health illness so it doesn't matter if they get all of the answers right – more to show that everyone can have poor mental health at some point.**

Run through celebrity answers:

Adele – panic attacks

Danny Rose – depression

David Beckham – OCD

Ariana Grande – anxiety

Will Smith – ADHD

Zayn Malik – anxiety

Demi Lovato – Bipolar

Ryan Reynolds – depression

Nicole Scherzinger – Bulimia

Lady Gaga – PTSD

Beyoncé – anxiety

Dwayne Johnson – depression

Say that although we have used famous people and celebrities as examples poor mental health is an everyday occurrence for many people

Slide 7 – How common is mental health illness (1 min)

Say the statistics for how common they are

Emphasise that in a normal sized class at high school that means **3 people per class** may be dealing with mental health illness

Slide 8 – Most common mental health illness (1 min)

Run through most common for general population and for young people

Point out the differences

Say we are going to learn a little bit more about each of the 4 most common for YP

Slide 9 – Most common in young people (5 mins total)

1) Anxiety

Talk about it being a **normal response that happens to everyone but in time it will pass**

It **becomes a mental health problem when** – you are worrying all the time about everyday life/things that are unlikely to happen – you experience physical/psychological symptoms regularly

Different types **include Generalised Anxiety Disorder, OCD and panic disorder**

Next explain about the 2 types of symptoms

- 1) Physical symptoms
 - Feeling sick
 - Sweating
 - Thumping heart
- 2) Psychological symptoms
 - Feeling tense/on edge
 - Feeling like your mind is really full of thoughts
 - Fearing the worst

If they ask what medications are used they are – antidepressants, beta blockers (physical symptoms) and benzodiazepines (sedatives)

2) Depression

Feeling low for a long time

Talk about 2 types of symptoms – give a couple of examples of each

- 1) How you feel
 - Upset/tearful
 - Isolated
 - Hopeless
 - Suicidal
- 2) how you behave
 - avoid social events
 - no appetite/eating too much
 - difficulty sleeping/sleeping too much
 - self-harm

Now **talk about treatment options**

- 1) Talking therapies - includes cognitive behavioural therapy (CBT) focusses on how your thoughts affect your feelings/behaviour and how to learn to cope with them (this is the same treatment as for anxiety)
- 2) Medication – antidepressants – there are many different types and it might be necessary to try a few before you find one that works. People can also be on more than 1 antidepressant in severe cases

3) Eating disorders

Explain that watching what you eat/eating healthily isn't a problem – it is much more extreme than this

Talk about the **3 different types** – say it is just a brief overview

- 1) **bulimia nervosa**
 - eat large amounts of food in one go (bingeing) and then feel ashamed so vomit it back (purging)
- 2) **anorexia nervosa**

- not eating enough food/getting enough energy to be healthy
- often linked to low self-esteem and negative self-image

3) binge eating disorder

- sometimes described as compulsive eating
- can't stop even though you might want to

If they ask about medication it is used to treat underlying causes eg antidepressants or anti-anxiety

4) Self-harm

Talk through first few bullet points

When get to one about common reasons say that it can be **used as an escape or to feel in control**

Discuss **common reasons to self-harm:**

- Pressures from school/work
- Bullying
- Bereavement
- Increase in stress
- Difficult feelings eg anger, depression, anxiety

At the end of slide say people can often be accused of attention seeking by self-harming however it is often done in private and accusing someone of this may stop them from seeking the help they need

Slide 11 – Causes of mental health illness (1 min)

Say that there can be many different causes of mental health illness and that they can be different for everyone.

Can be a combination of factors – the ones in the slide are just some examples

Slide 10 – General signs of decline in mental health (1 min)

Read out list of signs of general decline in mental health

Emphasis again the fact that **everyone is different and every mental health condition is different**

These are just general guides as oppose to being disease specific

Perhaps say something about how showing any of these signs might suggest that you **talk to the person concerned or someone they know if you were worried about them doing any of these things**

Slide 11 – Stand-up kid video (4 mins)

Say the video is about actors but it is talking about something that could be happening in your class.

Tell them Important to look out for signs in ourselves and other people in our class.

Slide 12 – What is stigma? (2 mins)

So for the last section of the class we are going to be looking at stigma

Ask the class – what is stigma?

Talk through bullet points

Slide 13 – how to avoid using stigma (1 mins)

Run through bullet points, pick out a few to put emphasis on

Slide 14 – Unacceptable/acceptable words activity (15 min)

In their table groups get them to split the A3 paper in half – one side for acceptable/positive language to describe mental health and the other for unacceptable/negative.

Tell them to write down as many words as they can – reassure them that if they write down bad words it doesn't mean we think they use them!

Tell them these prompts: negative – schizo, positive – survivor

Ask them at the end to count up how many positive and negative words they have (when I have done it in the past there has always been more bad words). Discuss why there might be more negative words? Does this surprise them? Why do they think this this happen?

Slide 15 – Why is good mental health important? (1 min)

Say so why is good mental health important – can anyone think of any benefits of looking after your mental health?

When they have suggested some things go through the next slide

Slide 16 – benefits of good mental health (1 min)

benefits of mental health) – if they don't match up still tell them they are right but just say something about the benefits are often unique to the individual (maybe their points will be more specific so you can just show where they fall in the general bullet points in the list)

Slide 17 – How to improve mental health (1 min)

On provided worksheet write down 5 ways in which they could improve their mental health (if short on time just do this as a shout out activity or miss out all together)

Go through list of how to improve mental health – expand on at least 3 of them eg saying get 8 hours sleep per night/talk about sleep hygiene

Slide 18 – its ok not to be ok (2 mins)

Say we are coming towards the end of the session now and just want to make the point that it is ok not to be ok

Say that there are lots of places you can go for help both at school and outside of school in the community

List them all and expand on a couple eg a lot of information for this presentation was influenced by Mind website, school staff – each school will have a designated pastoral staff member, friends and family – if feel comfortable talking to them often a good place to go

Give out takeaway cards from your packs.

Slide 19

End by asking them if they have any questions at all - answer them if they do and thank them for their time

And then read out the quote from the wonderful man that is Albus Dumbledore!

If you finish early remember that you can talk about UoM/pharmacy/university generally with the class.

Appendix 29. Recruitment email to MPharm students for main study

Dear 3rd year pharmacy student,

I am Emma Williams and I am PhD student from the Division of Pharmacy and Optometry at The University of Manchester. You have the opportunity to be involved in a piece of research that is interested in finding out the views of 3rd year MPharm students' on delivering a mental health promotion workshop in high schools. There is an information sheet attached to this email which contains all of the details about the study, along with contact information if you have any more questions. There is also a consent form attached.

If you decide you would like to take part in this research then please complete the consent form, electronically is acceptable, and return this via email to myself (emma.williams-12@postgrad.manchester.ac.uk). You could also print and sign the consent form and return these to the box on my desk in room 1.136 Stopford building. Once I have received your consent forms you will be allocated to one of the focus group slots. If you do not want to take part in this research then take no further action. You will not be advantaged or disadvantaged by either taking part or not taking part in the study.

Many thanks,
Emma Williams

PhD student – 'The development of a peer-led, school-based mental health promotion intervention'
emma.williams-12@postgrad.manchester.ac.uk

Appendix 30. Focus group topic guide for main study

Focus group characteristics

- 6-8 participants
- 3rd year MPharm students
- University of Manchester

Focus group topic guide and structure – 1 hour total

Welcome – 5 mins

Equipment – encrypted Dictaphone

“Hello everybody, my name is Emma and I will be conducting the focus group discussion today.

I have invited you to discuss the mental health promotion workshop that you delivered in December. Your opinions and views are very important and will really help to evaluate both the impact of intervention and how the intervention delivery sits within the MPharm. The focus group will be a combination of open questions that I would like you to discuss and activities to complete.

This conversation will be voice recorded. This is only for the purpose of this research and only myself and the research team will listen to it. To maintain confidentiality no names or personal details will be used when I write up this discussion for my research and the tapes will be destroyed once they have been written up. This focus group is not marked and will not go towards your MPharm degree.

So some practical issues before we start

- The focus group will last for 1 hour
- Try not to use people’s names during the discussion, if you do I will remove them later
- Only one person should speak at one time, try not to talk over each other
- There are no right or wrong answers, if you have something you would like to say then just say it
- You don’t have to speak in a particular order, ie you don’t need to go around the circle
- You don’t have to agree with everything everyone in the group says but please be respectful of other people’s opinions
- If being involved in the focus group does cause you any upset or distress please let me know and we can decide what would be best to do

Anyone have any questions? Great, let’s get started.”

Opening question

So firstly I would just like to go around the circle and tell us one interesting fact about ourselves. So “I have a pet dog called Paolo”.

Key questions – 40 min total

Activity 1 – rating of how much of an impact on each skill set -15 mins

Equipment – laminated individual skills, A3 sheet with scale

“So the first thing I would like you to do is to take a look at the list of skills on the table. These were all mentioned as skills that MPharm students felt they developed after delivering the MHP intervention. I would like you to have a think and see if there is anymore that you felt you developed that have been missed.

Ok now you have done that can you please put each of the skills on the scale, where 0 means the delivery of the intervention had no impact on this skill and 10 means it had a very large impact on this skill. Have a few minutes to do this.

OK so you have listed _____ as a skill that the intervention had a lot of impact on.

Can you explain this in more detail? *Do this for a couple of them.*

You also listed that there was very little impact upon _____, can you explain why? Is there anyway more of an impact could be had on this? *Do this for a couple of them.*”

Activity 2 – rating around knowledge gain – 10 mins

Equipment – laminated quotes about knowledge gain, A3 sheet with strongly disagree to strongly agree on it

“So now I would like us to do a similar exercise but this time talk about any knowledge you feel you gained from delivering the workshop. This can be clinical in terms of mental health illness and treatments but also can be more holistic in terms of how to talk about mental health and how to handle stigma. I have printed out some short phrases that were used by MPharm students about this and I would like you to say if you agree or disagree with these statements by placing them along the scale and then we will discuss it. 5 mins

So I can see you have put these along the scale, *talk about a few of them and as to say why agree/disagree*

Was there any other thing you feel you learnt that were not included in this exercise?”

Activity 3 – free-listing activity about how intervention delivery may impact future practice – 10 mins

Equipment – 2 x A3 paper, marker pens

“I would like you to in 2 groups (split them as they are sitting) write down how you think that delivering the intervention may impact your future practice. You can do it as a list, spider diagram or however you want. You can use what we have already spoken about in terms of skills and knowledge development and project those onto your future career and how you might use these. 5 mins to do this.

So does anyone want to share anything they think may have an impact on their future practice?

Do you think this is an important aspect of a pharmacy career?

Do you feel this has already been taught in other units of the MPharm course?”

Activity 4- discussion surrounding improvements for the workshop delivery – 5mins

“So just before we move to the final stage of the focus groups I would like to give you the opportunity to tell me any improvements you think could be made to the unit – either in practical terms or content of the workshop. Please be constructive however all comments will be taken on board. You can either discuss these now or write them down on the post-it notes.”

Ending questions – 5-10 mins

“So is there anything you think we have missed about the delivery of the MHP intervention or the unit as a whole, or anything that you want to say that you haven’t had chance to?”

“Finally let’s go round the circle again and say what the most important thing you think you learnt from the experience of delivering the MHP workshop?”

Conclusion – 2 mins

“Thank you all for participating in this focus group. It has been a very successful discussion and your opinions will be a lot of help for my research project.

I hope you have found the discussion interesting. If you have any questions or would like to complain about anything to do with the focus group research then please come and see me or contact me with the details on the information sheet.

Finally I would just like to remind you all that any comments made during the focus group are anonymous. Thanks again!”

Appendix 31. MPharm student participant information sheet for main study



The University of Manchester

MPharm students' views on delivering a mental health promotion intervention to high school children

Participant Information Sheet (PIS)

You are being invited to take part in a research study to explore MPharm students' views on skills, knowledge and professional behaviour development after the delivery of a mental health promotion intervention. Before you decide whether to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully before deciding whether to take part and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Thank you for taking the time to read this.

About the research

➤ Who will conduct the research?

Emma Williams a PhD student from the Division of Pharmacy and Optometry at The University of Manchester.

➤ What is the purpose of the research?

This study aims to assess whether delivering a mental health promotion intervention (workshop) had an impact upon skills or knowledge gain for MPharm students or if it had a potential impact upon future practice.

You have been chosen for this study as you are a 3rd year MPharm student at the University of Manchester who delivered one of the mental health promotion workshops. It is intended that 28 MPharm students are recruited for this study.

➤ Will the outcomes of the research be published?

The outcomes of the research may be published in academic journals or reports, and will also form part of the PhD thesis for Emma Williams.

➤ Who has reviewed the research project?

The project has been reviewed by the University Research Ethics Committee

➤ Who is funding the research project?

Health Education England

What would my involvement be?

➤ What would I be asked to do if I took part?

If you would like to take part we will ask you to volunteer for a focus group (group discussion) with approximately 6 other 3rd year MPharm students from the University of Manchester.

The focus group will take 1 hour and will take place during normal working hours in Stopford building. Before the focus group you will be asked to sign a consent form and return it to Emma Williams. During the focus group you will be asked about your experience delivering the mental health promotion intervention (workshop) to high school pupils as part of the 30500 module for the MPharm degree. You will be asked to complete activities and answer open ended questions surrounding the impact of delivering the workshop upon your skills or knowledge gain or if delivering the workshop had an impact upon future practice. You will also be given the opportunity to comment upon any improvements for the unit or intervention in general.

➤ Will I be compensated for taking part?

You will be compensated for this research in the form of a £10 Amazon gift voucher.

➤ What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you change your mind then email or ring Emma Williams to inform her using the contact details at the end of this information sheet. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself. However, it will not be possible to remove your data from the project once it has been anonymised as we will not be able to identify your specific data. This does not affect your data protection rights. If you decide not to take part you do not need to do anything further.

The focus groups will be audio recorded and therefore agreement to this is essential for participation in the study. However you should be comfortable at all times so would be free to stop the recording at any point.

Data Protection and Confidentiality

➤ What information will you collect about me?

In order to participate in this research project we will need to collect information that could identify you, called "personal identifiable information". Specifically we will need to collect:

- Name
- Gender

The audio recordings taken during the focus groups will only capture voices.

➤ **Under what legal basis are you collecting this information?**

We are collecting and storing this personal identifiable information in accordance with data protection law which protect your rights. These state that we must have a legal basis (specific reason) for collecting your data. For this study, the specific reason is that it is “a public interest task” and “a process necessary for research purposes”.

➤ **What are my rights in relation to the information you will collect about me?**

You have a number of rights under data protection law regarding your personal information. For example you can request a copy of the information we hold about you, including audio recordings.

If you would like to know more about your different rights or the way we use your personal information to ensure we follow the law, please consult our [Privacy Notice for Research](#).

➤ **Will my participation in the study be confidential and my personal identifiable information be protected?**

In accordance with data protection law, The University of Manchester is the Data Controller for this project. This means that we are responsible for making sure your personal information is kept secure, confidential and used only in the way you have been told it will be used. All researchers are trained with this in mind, and your data will be looked after in the following way:

The voice recordings from the focus groups will be kept confidential as:

- Only the researcher Emma Williams will be transcribing the focus group information
- Personal information will be removed from the transcript of the voice recordings
- The voice recordings will be kept on a secure network drive
- The voice recordings will be kept for 5 years in accordance with the UoM retention schedule

Only the research team at The University of Manchester will have access to your personal information, but they will pseudonym it as soon as possible. Your name and any other identifying information will be removed and replaced with a pseudonym e.g. participant 1. Only the research team will have access to the key that links this pseudonym to your personal information. Your consent form and contact details will be retained for 5 years on a secure network drive in accordance with the University of Manchester retention schedule.

Please also note that individuals from The University of Manchester or regulatory authorities may need to look at the data collected for this study to make sure the project is being carried out as planned. This may involve looking at identifiable data. All individuals involved in auditing and monitoring the study will have a strict duty of confidentiality to you as a research participant.

What if I have a complaint?

➤ Contact details for complaints

If you have a complaint that you wish to direct to members of the research team, please contact:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

If you wish to make a formal complaint to someone independent of the research team or if you are not satisfied with the response you have gained from the researchers in the first instance then please contact

The Research Governance and Integrity Officer, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester, M13 9PL, by emailing: research.complaints@manchester.ac.uk or by telephoning 0161 275 2674.

If you wish to contact us about your data protection rights, please email dataprotection@manchester.ac.uk or write to The Information Governance Office, Christie Building, The University of Manchester, Oxford Road, M13 9PL at the University and we will guide you through the process of exercising your rights. You also have a right to complain to the [Information Commissioner's Office about complaints relating to your personal identifiable information](#) Tel 0303 123 1113

Contact Details

If you have any queries about the study or if you are interested in taking part then please contact the researcher:

Emma Williams emma.williams-12@postgrad.manchester.ac.uk 0161 2751807

Research Supervisors:

David Allison david.allison@manchester.ac.uk 0161 52359

Sarah Willis sarah.willis@manchester.ac.uk 0161 55894

Appendix 32. MPharm student consent form for main study



Consent Form

If you are happy to participate please complete and sign the consent form below

	Activities	Initials
1	I confirm that I have read the attached information sheet (Version 1, Date 14/08/19) for the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.	
2	I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to myself. I understand that it will not be possible to remove my data from the project once it has been anonymised and forms part of the data set. I agree to take part on this basis.	
3	I agree to the focus groups being audio recorded .	
4	I agree that any data collected may be published in anonymous form in academic books, reports or journals .	
5	I understand that data collected during the study may be looked at by individuals from The University of Manchester or regulatory authorities, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	
6	I agree to take part in this study.	

Name of Participant

Signature

Date

Name of the person taking consent

Signature

Date

Appendix 33. MPharm student distress protocol for main study

MPharm students Distress Protocol

Important Note: This distress protocol is an example specifically related to direct contact with participants. If your study will involve interviewing participants over the phone, via an online medium or utilising online or postal questionnaires you will need to adopt the measures below accordingly. In addition, this document is for example purposes only and the content must be adjusted according to the specific constraints and risks for your study.

Prior to study

- The students will be told during the focus group that if being involved in the focus group does cause them any upset or distress they are to tell **Emma Williams** and then they will decide what to do (will follow distress protocol)

During the study

Should a participant report or show signs of distress and feeling uncomfortable while participating in the focus group, the following actions will be taken by the researcher:

Step 1

- Suggest that the participant **take a break or leave the focus group**
- Ask the participant how they are feeling, listen with empathy and offer support.

Step 2

- If the participant would like to continue, **the researcher will reiterate that the participant can leave the focus group at any time**
- If the participant would like to stop or appears highly distressed, follow the actions in **Step 3**

Step 3

- Stop **the focus group**
- **Mild distress:** Encourage the participant to speak to **David Allison or Sarah Willis** for support OR offer to do so for the participant.
- In all instances the researcher will seek support from their supervisor/line manager.

Follow-up actions

- Offer to follow participant up with a phone call/email the following day
- Offer the participant the opportunity to withdraw from the study and for their data to be destroyed
- Recommend the participant contacts **Emma Williams, David Allison or Sarah Willis** if they continue to feel distressed

Appendix 34. Ethical approval form for MPharm students for main study



Research Governance, Ethics and Integrity
 2nd Floor Christie Building
 The University of Manchester
 Oxford Road
 Manchester
 M13 9PL
 Tel: 0161 275 2206/2674
 Email: research.ethics@manchester.ac.uk

Ref 2019-7753-11730
 30/08/2019

Dear Miss Emma Williams, Dr David Allison, Dr Sarah Willis

Study Title: MPharm students' views of delivering a mental health promotion intervention to high school children

Proportionate UREC

I write to thank you for submitting the final version of your documents for your project to the Committee on 27/08/2019 15:13 . I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation as submitted and approved by the Committee.

Please see below for a table of the title, version numbers and dates of all the final approved documents for your project:

Document Type	File Name	Date	Version
Advertisement	advertising email	14/08/2019	1
Letters of Permission	advertising email	14/08/2019	1
Data Management Plan	DMP MPharm_students'_views_on_delivering_a_mental_health_promotion_intervention_to_high_school_children	27/08/2019	2
Additional docs	Focus group topic guide	27/08/2019	2
Participant Information Sheet	PIS	27/08/2019	2
Consent Form	Consent form	27/08/2019	2
Additional docs	MPharm Distress Protocol	27/08/2019	1
Additional docs	Revisions to Ethics Applications	27/08/2019	1

This approval is effective for a period of five years however please note that it is only valid for the specifications of the research project as outlined in the approved documentation set. If the project continues beyond the 5 year period or if you wish to propose any changes to the methodology or any other specifics within the project, an application to seek an amendment must be submitted for review. Failure to do so could invalidate the insurance and constitute research misconduct.