A CRITICAL CONTRIBUTION TO THE THEORY, METHOD AND PRACTICE RELATING TO SCHOOL-BASED MENTAL HEALTH LITERACY INTERVENTIONS AND THEIR EVALUATION

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ABSTRACT

This thesis makes a critical contribution to theory, method and practice relating to school-based mental health literacy (MHL) interventions and their evaluation. Gaps in the literature included a lack of critical evaluation of MHL research conducted with adolescents, comprehensive psychometric assessments to inform population specific, MHL-related measures, and research to better understand the mechanisms of change, cultural adaptation and implementation of school-based MHL interventions. To fill the identified gaps in the literature, four unique studies were developed adopting a range of methods and analyses in order to most appropriately answer the research questions. Study One was a systematic literature review of the existing conceptualisation and measurement of MHL in adolescent research. Study Two assessed the psychometric properties of a MHL-related measure, the Reported and Intended Behaviour Scale (RIBS), for use with adolescents. Study Three modelled educators' perceived MHL and capacity to support students' mental health, and the association with school-level characteristics and provision. Finally, Study Four was a qualitative study of cultural adaptations made and suggested by school staff to a Canadian MHL curriculum for the English school context. Overall, the thesis highlighted some challenges and inconsistencies in the field, and provided suggestions for the future conceptualisation and measurement of the MHL construct in adolescent research. It also provided evidence of the psychometric properties of two MHL-related measures, one for adolescents and one for educators. Gaps in educators' perceived MHL and capacity were identified, and little variance was found to be explained by school-level characteristics and provision. Cultural adaptations identified in Study Four, informed recommendations for the future development of school-based MHL interventions such as immediately implementable lesson plans, adequate training, clear core components, and a level of flexibility to accommodate contextual and student characteristics.

DECLARATION

I declare that no portion of the work referred to in this 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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PREFACE

When I was at school, I received no education relating to mental health. I can't even remember having a one off assembly on world mental health day. I had heard about mental health services because my dad was a mental health nurse, and went on to work as a service manager for many years. However, in terms of understanding my own and other people's mental health, I knew very little. Throughout my teenage years, and into adulthood, I have had direct and indirect experiences of mental health difficulties, and have seen the struggle of close family members. This has led to the realisation that I had never been formally taught what to do in these situations, how to support people experiencing mental distress, and how to gain information and talk about mental health. I look back to when I was in 6th form, and I honestly don't know who I would have talked to about this in my school. Similarly, at university I didn't think to discuss what was going on with any of my tutors.

Since then, I've felt strongly that mental health should be a compulsory subject in schools. I just couldn't believe that a subject so important was not statutory in England. Knowing first-hand how it feels to be scared of your thoughts, to be given labels, experience side effects from anti-depressants, and attend both damaging and helpful counselling and therapy sessions, I believe every young person should be provided with the tools to help them through similar life experiences. It was for this reason that I applied for this PhD, as an opportunity to contribute to a large national-level project to provide evidence for school-based mental health education. When deciding on the specific focus of my PhD, it therefore made sense to explore existing models of mental health education interventions such as mental health literacy (MHL), and think carefully about what that education should include, how we can measure the success of interventions, and what factors impact successful implementation in the English school context.

1   CHAPTER ONE: INTRODUCTION

1.1. Part One: Context Setting

1.1.1   Professional Discourses and Terminology

This thesis makes a critical contribution to the theory, method and practice relating to school-based mental health literacy (MHL) interventions and their evaluation. The dominant professional discourses in the MHL field are questioned, in particular in Chapter Three (systematic literature review), along with the usefulness of terminology adopted in existing research. It is therefore important to start with a brief overview of the relevant professional discourses and frameworks for mental health research and practice, and the associated terminology.

The biopsychosocial model is said to be the conceptual *status quo* in modern psychiatry (Ghaemi, 2009). Originally developed to account for the complex interaction between biological, psychological and social dimensions in the development and treatment of diagnosable mental disorders, the model has been criticised for being vague and eclectic (Ghaemi, 2009). Despite these criticisms, the biopsychosocial model is widely accepted in providing a holistic, theoretical explanation of causal attributions. However, in practice the 'psycho' and 'social' remain lost, and have little influence on the organisation and funding of healthcare (Read, 2005; Wade & Halligan, 2017).

Contemporary research and practice relating to psychological distress is still largely shaped by a biomedical perspective (Kvaale, Haslam, & Gottdiener, 2013). The biomedical discourse exists within a positivist paradigm assuming that there is truth and objectivity in psychiatric assessments and the diagnosis of mental disorders (Zeeman & Simons, 2011). In line with medicine for physical health problems, the medical model implicitly assumes a biological basis for mental disorders, differentiates between health and illness by applying thresholds for 'normal' functioning, and determines appropriate pathways of care and

treatment based on psychiatric labels (Kinderman, Sellwood, & Tai, 2008). It therefore

lends itself to the language of disorder and illness as opposed to health. The two main

diagnostic manuals for mental disorders are the American Psychiatric Association's,

Diagnostic and Statistical Manual of Mental Disorders (DSM), and the World Health

Organisation's (WHO) International Classification of Diseases (ICD), now on their 5th and

11th editions respectively (Clark, Cuthbert, Lewis-Fernández, Narrow, & Reed, 2017). In

both manuals, the majority of mental disorders are categorised as distinct, despite

acknowledging the common experiences of individuals receiving different diagnoses.

These classification systems have been criticised for their lack of reliability, validity,

utility, epistemology and humanity (Kinderman, Read, Moncrieff, & Bentall, 2013). For

example, classical classification systems are undermined by the high rate of comorbidity

between mental disorders (Carragher, Krueger, Eaton, & Slade, 2015). Furthermore,

biomedical explanations, and the psychiatric language of disorders, often lead to

psychosocial risk factors being neglected, and more stigmatising attitudes towards those

who receive a diagnosis (Kinderman et al., 2013; Schomerus et al., 2012). For example,

some research has found an increased desire for social distance linked to biogenetic causal

theories (Angermeyer & Matschinger, 2005; Read, Haslam, Sayce, & Davies, 2006), and

in a more recent meta-analytical review, biogenetic explanations and attributions were

found to produce misconceptions about dangerousness and unpredictability, and pessimism

about recovery despite reducing blame (Kvaale et al., 2013).

Early definitions of wellbeing presented by Bradburn (1969) aimed to move away from

psychiatric diagnosis and towards a view of understandable human reactions to difficulties

faced in everyday life (Dodge, Daly, Huyton, & Sanders, 2012). Continuous and

dimensional frameworks are increasingly presented as an alternative to a system of

categorisation, with a focus on broad spectrums and specific symptom level experiences

(Krueger et al., 2018). These approaches align with an understanding of psychiatric

symptoms as representing the less common experiences and more extreme psychological distress on a continuum (Kinderman et al., 2013). That is not to say that these experiences are not common within a lifetime. It has been found that only a minority of the population will go through life without experiencing the symptoms of a diagnosable mental disorder (Schaefer et al., 2017).

One such theoretical framework is the complete mental health state model, presented by Keyes (2005). Here, mental wellbeing and mental illness are presented as related but independent dimensions of the complete mental health state. Beyond the assumption that mental health is merely the absence of mental illness, Keyes argued that an individual can be categorised as flourishing (high levels of hedonic wellbeing and positive functioning) or languishing (low levels of hedonic wellbeing and poor functioning), with or without having received a psychiatric diagnosis. Similarly, the two-continua approach and the dual-factor approach posit that subjective wellbeing and mental illness are related but distinct dimensions, and do not sit on a single bipolar continuum (Antaramian, Scott Huebner, Hills, & Valois, 2010; Greenspoon & Saklofske, 2001; Westerhof & Keyes, 2010). More recent research supports these frameworks by providing evidence that wellbeing and internalising (e.g. low mood or worry typically associated with depressive or anxiety disorders) and externalising symptoms (e.g. behavioural symptoms such as conduct or attentional problems) in adolescent samples were associated but independent factors (Black, Panayiotou, & Humphrey, 2019), and that the correlates of mental illness and wellbeing in childhood are largely unique (Patalay & Fitzsimons, 2016). Both studies call for a more complete understanding and assessment of life course mental health.

As there are no variables that assess mental health difficulties or wellbeing in this thesis, I have not been forced to choose one of the above approaches to measurement and analysis. However, to study MHL is to be interested in mental health discourses. Health, as defined by the WHO's constitution, refers to a complete state of physical, mental and social

wellbeing, and goes beyond the absence of disease (WHO, 2020). Mental health is therefore a key component of health and, is itself, a complete state of subjective wellbeing, optimal functioning, and realised potential, and not merely the absence of disorder (WHO, 2018). It therefore makes sense to me that, like the name of the construct indicates, 'mental health' literacy should be understood in terms of the complete mental health state, and beyond the dichotomy of illness and wellness. Furthermore, in order to avoid the language of disorder and the medicalisation of human experience, my personal preference is to use terms such as mental health difficulties/problems or issues (Pilgrim, 2019), and to refer to individuals as having lived experience of mental health difficulties, as opposed to language that indicates a more unchangeable state like 'having a mental disorder'. I use this terminology where possible. However, in order to critically appraise existing MHL research, I use and refer to definitions and terminology adopted in the cited literature where appropriate.

1.1.2 Prevalence of Adolescent Mental Health Difficulties

The WHO defines adolescence as age 10-19 (WHO, 2014). Adolescence is a critical developmental stage characterised by physical, neurodevelopmental, social and psychological changes which have implications for behaviour and health, and therefore the services and support offered to this unique population (Hagell, Coleman, & Brooks, 2013). The first onset of most diagnosable mental disorders is by age 24, with approximately 50% occurring by age 14-15 (Kessler et al., 2005; Kim-Cohen et al., 2003). In 2004, 12% of 11-16 year olds in Great Britain met ICD criteria for a mental disorder; the most common disorders included conduct disorders and emotional disorders such as anxiety and depression (Green, McGinnity, Meltzer, Ford, & Goodman, 2005). More recently, in 2017, between 14-17% of adolescents aged 11-19 were found to meet diagnostic criteria for at least one mental disorder in England (Sadler et al., 2018). Epidemiological research estimates that 10-20% of young people experience a diagnosable mental disorder

worldwide, with many more believed to be impaired by varying degrees of distress across the mental health continuum (Belfer, 2008; Costello, Egger, & Angold, 2005; Kieling et al., 2011; Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). For example, in a survey of over 12,000 adolescents across 11 countries, approximately 29% of the sample were experiencing sub-threshold depression calculated using a range of outcomes (Balázs et al., 2013).

A number of large population surveys have included the Strengths and Difficulties Questionnaire (SDQ) to broadly assess the extent of mental health difficulties experienced by young people. The SDQ includes 25-items divided into five sub-scales: emotional symptoms, conduct problems, peer-relationship problems, hyperactivity/inattention problems, and a prosocial behaviour scale (Goodman, Meltzer, & Bailey, 2003). A threshold is applied to the first four scales, indicating children and young people experiencing elevated mental health difficulties. In a survey of over 30,000 students from schools with low socio-economic status in England, over 18% were experiencing emotional difficulties, with higher rates among girls than boys (Deighton et al., 2018). Other evidence supports the finding that girls report more symptoms of mental health difficulties than boys in adolescence (Patalay & Fitzsimons, 2018). Despite relatively stable prevalence for some mental health difficulties, a significant increase in emotional difficulties was found in adolescent girls between 2009 and 2014 (Fink, Patalay, Sharpe, Holley, Deighton, & Wolpert, 2015). General increases in depressive symptoms and self-harm were also reported between 2005 and 2015 across two United Kingdom (UK) birth cohorts (Patalay & Gage, 2019). High depressive symptoms reported by adolescents at age 14 increased from 9% to 15% and from approximately 12% to 15% for self-harm.

1.1.3   Individual and Societal Impact of Adolescent Mental Health Difficulties

Experiences of mental health difficulties in early life not only cause distress to children and young people, but are also associated with a range of negative individual outcomes such as

risky behaviours, like substance abuse and violence, poorer physical health, and lower academic achievements (Patel, Flisher, Hetrick, & McGorry, 2007). Having a diagnosed mental disorder in childhood and adolescence can increase risk of difficulties in later life by up to three times (Copeland et al., 2013; Johnson, Dupuis, Piche, Clayborne, & Colman, 2018). For example, adolescents that experience depression are less likely to finish secondary school and are at greater risk of unemployment in adulthood (Clayborne, Varin, & Colman, 2019). Furthermore, over a 53 year follow up period, experiences of severe affective symptoms in adolescence were also associated with premature mortality (Archer, Kuh, Hotopf, Stafford, & Richards, 2018).

Emotional difficulties are also repeatedly found to be one of the leading causes of the global burden of diseases (Gore et al., 2011; Kassebaum et al., 2019). Adolescent mental health difficulties incur large societal costs. As well as costs associated with mental health services (Ssegonja et al., 2019), the increased likelihood of unemployment, reliance on welfare, and contact with criminal justice services lead to much wider economic implications (Knapp et al., 2016). Beyond the governments' obvious moral obligation to reduce child and adolescent suffering, they must also recognise the long term socioeconomic benefits of earlier intervention. In the past decade, adolescence has been globally identified as a significant developmental phase for promoting positive mental health, preventing mental health difficulties and increasing access to mental health services (Neufeld, Dunn, Jones, Croudace, & Goodyer, 2017; O'Connell, Boat, & Warner, 2009; WHO, 2013). The importance of investing in adolescent health and wellbeing is increasingly recognised, with an emphasis on inter-sectoral approaches including health, education, legal and family support systems (Patton et al., 2016). Greater attention has therefore been placed on the role that schools play in supporting young people's mental health.

1.1.4 Pressure on Child and Adolescent Mental Health Services

In an attempt to collate recent UK evidence, the Institute for Public Policy Research (IPPR) published a report titled 'Education, Education, Mental Health' (Thorley, 2016). The report presented evidence to suggest that schools in England were facing a 'perfect storm' for mental health difficulties among their students. At the time of writing the report, up-to-date prevalence statistics were sparse; however, they presented young people's hospital episode statistics and revealed 50% more self-harm cases between 2009/10 and 2014/15 (Department of Health, 2016). While the demand for services has been increasing, Child and Adolescent Mental Health Services (CAMHS) have experienced increased funding pressures. Only 6% of National Health Service (NHS) mental health funding was allocated to CAMHS in 2012/13, and between 2010/11 and 2015/16 local authority funding for early intervention services was cut by around 55%, leading to CAMHS services struggling to cope with increased demand (Hagell et al., 2013; Thorley, 2016). In 2013, the NHS Benchmarking Network estimated that the average referral rate to CAMHS was approximately 1.55% of the child and adolescent population, highlighting a huge treatment gap given that prevalence rates for mental health difficulties were found to exceed 10% (Hagell & Maughan, 2017).

More recent reports show nearly a twofold increase in the number of children and young people accessing accident and emergency services for mental health related difficulties between 2012/13 and 2017/18 (Department of Health and Social Care, 2018). Although CAMHS funding has increased in recent years, adult services are allocated 15 times more money. Furthermore, there still exists a disparity of esteem, with an average of £54 spent in local areas on child and adolescent mental health for every £800 spent on physical health (Children's Commissioner, 2018). Unsurprisingly then, the treatment gap remains. In the year 2017/18, 338,000 children and adolescents were referred to CAMHS, of whom, almost a third (32%) remained on the waiting list a year later, 37% were not offered

treatment and discharged and, under a third (31%) received a treatment (Children's Commissioner, 2018). The most recent report from the NHS Benchmarking Network revealed a clear investment in the CAMHS workforce, with increased numbers of staff. However, the report highlighted large variations in CAMHS across the UK, and despite increased investment, demand continued to outweigh capacity with longer waiting lists and average waiting times compared with the previous year (NHS Benchmarking Network, 2019).

1.1.5 Schools as a Context for Supporting Young People's Mental Health

Schools are perceived as the ideal point of access for building children and young people's social and emotional competencies, delivering evidence-based prevention interventions, and identifying and referring students at risk (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Fazel, Hoagwood, Stephan, & Ford, 2014; Lendrum, Humphrey, & Wigelsworth, 2013). School-based mental health provision can be seen to democratise access to evidence-based practices for mental health promotion, prevention of mental health difficulties, and access to services (Fazel et al., 2014). From an ecological perspective, teachers are obvious 'change agents' within schools given that they control the classroom environment (Atkins, Hoagwood, Kutash, & Seidman, 2010). Furthermore, when surveyed, 90% of teachers agreed that schools should play a role in supporting the mental health needs of their students, and providing mental health education (Graham, Phelps, Maddison, & Fitzgerald, 2011; Reinke, Stormont, Herman, Puri, & Goel, 2011). However, the idea of teachers as public health workers is seen as controversial by some, and with inconsistencies in training, expertise, and willingness, global school-based mental health provision is inevitably varied (Rossi, Pavey, Macdonald, & McCuaig, 2016).

1.1.6 Barriers to Effective School-based Mental Health Provision

In a study of over 1000 schools across 10 European countries, over half of schools reported that they did not have a mental health policy, and were not providing adequate support in

the year 2013/14 (Patalay et al., 2016). More recently, a review of 100 schools' websites in England revealed that only 3% had a published mental health policy (Brown, 2018). It has also been found that policies relating to whole school promotion of positive mental health and wellbeing are less frequently reported than those relating to supporting students with identified needs (Department for Education, 2017). Commonly reported barriers to providing effective mental health provision in schools include a lack of national policy, guidance and funding, and limited staff capacity (Department for Education, 2017; Patalay et al., 2016).

Eighty-five percent of educators surveyed in a study conducted in the United States (US) felt that they required further mental health training, and over 90% reported high levels of concern about their students' mental health (Moon, Williford, & Mendenhall, 2017). The extant literature suggests that despite the majority of teachers being able to correctly recognise the symptoms of a mental disorder, awareness of community services, and the confidence and ability to act on concerns and help students is still lacking (Jorm, Kitchener, Sawyer, Scales, & Cvetkovski, 2010; Loades & Mastroyannopoulou, 2010). Recent qualitative studies conducted in the UK also revealed that teachers perceive a need for expert-led, practical and interactive training, and are frustrated by the lack of clarity in their role (Shelemy, Harvey, & Waite, 2019a, 2019b). There is relatively little evidence relating to educators' level of understanding, preparedness and comfort delivering mental health content, and the types of training that are most effective (Whitley, Smith, & Vaillancourt, 2013). In line with findings that teachers report low levels of confidence providing help to students, recent reviews of educator training programmes suggest more research is needed to understand the mechanisms for improving teachers' helping behaviours, and in turn, student's mental health (Anderson et al., 2018; Booth et al., 2017).

Little support and consultation with external mental health professionals is available to schools in England, and the majority of mental health provision lacks a strong evidence-

base (Sharpe et al., 2016; Vostanis, Humphrey, Fitzgerald, Deighton, & Wolpert, 2013). Compared to other European countries, English schools also report a more reactive approach, targeting students with identified mental health difficulties (Patalay et al., 2017). Data on the number of schools delivering mental health education are varied. In 2013/14, only 16.8% of schools across 10 European countries were currently delivering mental health education (Patalay et al., 2017). However, in a study commissioned by the Department for Education, England, and conducted by the National Children's Bureau (NCB) and the National Centre for Social Research (NatCen) between 2015 and 2017, this figure exceeded 50% for schools that reported providing some taught sessions on mental health issues. Despite this overall figure, activities to reduce stigma were reported in as few as 16% of state-funded primary schools (Department for Education, 2017).

1.1.7 Increased Responsibility of English Schools to Support Young People's Mental Health

With reduced NHS funds allocated to early intervention and CAMHS in England (Department of Health, 2015), education policy and guidance emerged outlining the increased role of schools to promote and protect child and adolescent mental health (Education and Health Committees, 2017; Public Health England, 2015). Building on the 2015 Future in Mind and 2016 Five Year Forward View for Mental Health initiatives, the government published a green paper presenting proposed strategies for transforming child and adolescent mental health provision in England (Department of Health and Education, 2017). The proposal outlined a joint working approach between schools, colleges and the NHS. This included recommendations that all schools should appoint a designated mental health lead responsible for overseeing mental health provision within the school, and that CAMHS should identify a link within schools and colleges. Furthermore, it included promises of mental health awareness training for school staff, and funding for Mental Health Support Teams to bridge the gap between schools and NHS services, and bring

down CAMHS waiting times (Department of Health and Education, 2017). A commitment to the inclusion of mental wellbeing when drafting new guidance on Relationships and Sex Education (RSE) in England was also provided within the proposal.

However, the government green paper was heavily criticised for significantly increasing the pressure on schools without committing to providing the necessary resources (Education and Health and Social Care Committees, 2018). A lack of emphasis on prevention and early intervention was highlighted with the paper described as narrow in its focus, merely 'tinkering' with the current system (British Association of Social Workers, 2018; NHS Providers, 2018). The proposed roll out strategy was also thought to be unfair, failing to benefit the majority of young people, and the timeframe unambitious (Education and Health and Social Care Committees, 2018).

Since then, mental health training workshops between schools and the NHS have been launched as part of the Link Programme (Department for Education, 2019a). The opportunity to train alongside a mental health professional is being offered to a member of staff from each school, college and alternative provision as part of the £9.3 million training programme, with the aim of raising mental health awareness and improving schools' referrals to specialist services. Furthermore, new Education Mental Health Practitioner (EMHP) roles have been launched as part of the green paper proposal for Mental Health Support Teams. Practitioners are employed by the NHS, but work within schools to provide early intervention and support to students and their parents.

In 2019, statutory guidelines were also released for the introduction of compulsory mental health education in England by late 2020 (Department for Education, 2019b). All schools, both primary and secondary, will be expected to deliver topics relating to mental wellbeing as part of the national curriculum. Topics include the link between good physical health and mental wellbeing, recognising when there is a problem, seeking appropriate help and support, and the reduction of stigma relating to mental health difficulties. However, very

little advice (just over one page) was offered as to how and when schools should implement this content, with suggestions for integrating topics into national curriculum subjects such as Science and Physical Education (PE). Schools were described as "*free to determine how to deliver the content set out in this guidance, in the context of a broad and balanced curriculum*" (Department for Education, 2019b, p.8). More detailed guidance has been provided since by the Personal Social Health and Economic (PSHE) Association, with suggestions for ways to integrate mental health topics into a full PSHE curriculum, and tips for covering material sensitively and safely (PSHE Association, 2019).

A new framework for inspection has also been developed by the Office for Standards in Education (OFSTED), which incorporates the extent to which schools provide broader personal development opportunities to students, helping them to stay physically and mentally healthy by building resilience, confidence and independence (OFSTED, 2019). In line with previous criticisms of the government green paper, schools therefore have increased responsibility and higher expectations to support their students' mental health, and cover related topics with the same limited time capacity, and within the context of a long period of austerity (Hanley, Winter, & Burrell, 2020). In 2018/19, OFSTED conducted a qualitative study exploring the ways in which schools respond to the financial pressures they are experiencing. Given that schools are still predominantly assessed on their levels of attainment in a narrow set of core subjects, secondary school head teachers reported this as their key priority when dealing with financial pressures (OFSTED, 2020).

1.2   Part Two: Mental Health Literacy Interventions and their Evaluation

1.2.1   A Taxonomy for School-based Mental Health Interventions

With the aim of improving student mental health and wellbeing, and ensuring that the bridge between schools and external mental health services is met, school-based mental health interventions can be organised using a tiered approach including mental health promotion, prevention and treatment (Fazel et al., 2014). Interventions for mental health

promotion include topics such as conflict resolution, social and emotional skills, behaviour management and problem solving (Wells, Barlow, & Stewart-Brown, 2003). They tend to be universal, aimed at all students, be that at the whole school or classroom level, and delivered by staff within school. An example of a school-based mental health promotion intervention is Mind Matters (now known as 'Be You'). Developed in Australia to be delivered by classroom teachers, Mind Matters aimed to increase school connectedness and improve students' social and emotional understanding and skills relating to stress and emotion management, and effective communication (Wyn, Cahill, Holdsworth, Rowling, & Carson, 2000).

Preventive interventions, aimed at reducing the likelihood of students experiencing mental health difficulties, can be further organised into universal, selective and indicated. As previously noted, universal interventions are aimed at the whole student cohort. Selective interventions, however, target groups at increased risk of developing mental health difficulties, and indicated interventions provide support for students already identified as experiencing difficulties, and are therefore a form of treatment (Fazel et al., 2014). An example of a universal, preventive intervention aimed at reducing depression symptoms in Australian adolescents, is the Beyondblue, Cognitive Behavioural Therapy (CBT) based curriculum (Sawyer et al., 2010). The evidence-based programme was developed to reduce risks associated with developing depression, and increase protective factors at both the individual and school level. Despite Fazel et al. (2014) presenting promotion and prevention as separate tiers of school-based mental health interventions, in the case of universal preventive interventions, prevention and promotion can be seen as two sides of the same coin; difficulties can be prevented by promoting skills.

Furthermore, going beyond the classification of preventive interventions based on their form and target population, Foxcroft (2014a) presented an alternative prevention taxonomy based on the function of universal, selected and intended interventions. Three functional

types of interventions are proposed: environmental, developmental and informational. Environmental prevention acknowledges the setting or context, and the contribution of the wider physical, social, political and cultural structures that influence the opportunity for individuals to engage in risky health behaviours. Alternatively, developmental prevention aims to provide skills for the social development and socialisation of appropriate health behaviours. In contrast again, informational prevention functions through communication systems (e.g. media and education), and aims to raise awareness, increase knowledge and challenge misconceptions (Foxcroft, 2014a).

The prevention taxonomy presented by Foxcroft sparked discussion in the field, with some researchers questioning the function-based approach. For example, Burkhart (2013) argued that environmental prevention should be considered a form of prevention alongside universal, selective and indicate. Foxcroft (2014b) responded suggesting that it lacked refinement to include interventions that address both the direct and indirect context for behaviour change in one broad category of environmental interventions. However, there were also some concerns about the predictive utility and precision of Foxcroft's taxonomy (Biglan, 2014). Despite some criticisms, being able to reliably code an intervention based on both its form and function offers the opportunity to better understand what combinations of characteristics are most effective for behaviour change.

1.2.2   The Evolution of the Health Literacy Field

The term 'health literacy' was first coined in the US by Simonds (1974) when calling for health education to be understood as a matter of social policy. Simonds proposed "*minimum standards for health literacy*" (p.3) across all grades, with programmes to support underperforming school districts. However, health education was presented as an issue involving not only the education system but also the health care and mass communication systems. In this model, health literacy was understood as dependent not only on the quality of health education, but also on complex and changing health care

systems, increasing numbers of treatment options due to scientific advancements, and a greater emphasis on the publics' responsibility for self-care (Ratzan, 2001).

Despite the early use of the term, health literacy as an academic field did not emerge until the mid-1990s. In many ways, health literacy became more limited in meaning (Tones, 2002), as the term was defined in response to evidence that the inability to read and understand health information and medical instructions was increasingly found to be a barrier to achieving positive health outcomes (Parker, Baker, Willia, & Nurss, 1995; Williams et al., 1995). Furthermore, it was realised that due to low levels of functional literacy, millions of Americans could not access health information (Parker, 2000). The earliest definitions were therefore concerned with individuals' abilities to understand and apply medical information in health care settings to develop better health communication for patient compliance. For example, the Joint Committee on National Health Education Standards defined health literacy as "*the capacity of individuals to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which enhance health*" (Joint Committee on National Health Education Standards, 1995, p.5). Similarly, the American Medical Association defined health literacy in terms of functional skills at an individual level: "*the ability to read and comprehend prescription bottles, appointment slips and other essential health-related materials required to successfully function as a patient.*" (American Medical Association, 1999, p.552).

In 1998, the WHO redefined health literacy to include cognitive and social skills for promoting and maintaining good health as well as functional skills (Nutbeam, 1998). The definition also included an individual's motivation as well as their ability to access, understand and use information. The definition was therefore not strictly limited to the health care setting, but nevertheless took only an individual approach. With the exception of the overly simplistic definition published by the European Commission (2007) relating

to the ability to "*read, filter and understand health information*" (p.4), the year 2000 marked a general move towards acknowledging health literacy as the interaction between an individual's motivation and skills and the demands of the environment and social systems.

In an attempt to incorporate psychological, social and environmental factors that influence health related actions and health promotion behaviours, Nutbeam (2000) proposed three dimensions of health literacy. Functional literacy refers to the basic reading and writing skills needed to function adequately in everyday scenarios and aligns with early definitions of health literacy. Communicative/interactive literacy includes cognitive and social skills for actively interacting and engaging with information from different sources and being able to apply information across contexts. It can also refer to oracy, the ability to communicate effectively. This type of literacy acknowledges that the circumstances in which information may need to be applied are dynamic and complex. Similarly, critical literacy describes the advanced social and cognitive skills needed to critically appraise health information; however, this type of health literacy is also associated with increased autonomy and a sense of empowerment over one's health.

In line with the interactive dimension, Kwan et al. (2006) defined health literacy as an individual's abilities in relation to the demands of health contexts. Similarly, other researchers have emphasised the contextual nature of health literacy, with both patient and system level approaches to improving health (Paasche-Orlow & Wolf, 2007). Furthermore, differentiations have been made between health literacy as a potential clinical risk factor, leading to improvements in clinical practice that account for low levels of literacy, and health literacy as an asset i.e. population literacy for health promotion. The latter links to health education and providing the public with the capacity to be more in control of their health (Nutbeam, 2008; Pleasant & Kuruvilla, 2008). This type of critical health literacy encourages the public to engage in social and political activities to reduce health

inequalities. Freedman et al. (2009) coined the term 'public health literacy' to account for the community benefits of healthy decision making. The use of the term health literacy therefore appears to have gone full circle, returning to public health approaches that involve education, health and mass communication systems, as outline by Simonds in 1974.

The emergence of concepts such as critical health literacy and health citizenship were however met with some criticism. Tones (2002) believed that these models of health literacy were simply repackaging existing theories of problem solving, decision making and critical consciousness, all of which have been studied in the context of health. Although undeniably a complex construct, incorporating ideas from psychological and sociological theory, health literacy has become an international priority, recognised by the WHO as a leading indicator of health outcomes (WHO, 2013a). As a multi-dimensional construct, involving multiple stakeholders, and taking on new meaning across contexts, the challenge has become understanding the differences and commonalities in existing definitions and the implications for research, policy and practice (Okan, Bauer, Levin-Zamir, Diane Pinheiro, & Sørensen, 2019).

In a review of health literacy definitions and models, content analysis was conducted on 17 definitions and 12 conceptual models in an attempt to identify core components of health literacy and develop an integrated model (Sorensen et al., 2012). A comprehensive definition was developed, incorporating elements from the 17 definitions identified:

> "*Health literacy is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course.*" (p.3)

Although the definition aligns with a public health perspective, replacing 'healthcare', 'disease prevention' and 'health promotion' with 'being ill', 'being at risk' and 'staying healthy' transforms the definition for an individual approach. Sorensen et al. (2012) also presented an integrated model of health literacy (see Figure 1.1) incorporating core dimensions from existing models, as well as factors thought to impact health literacy and the ways in which health literacy influences health outcomes.

Figure 1.1 *Integrated model of health literacy* (Sorensen et al., 2012)
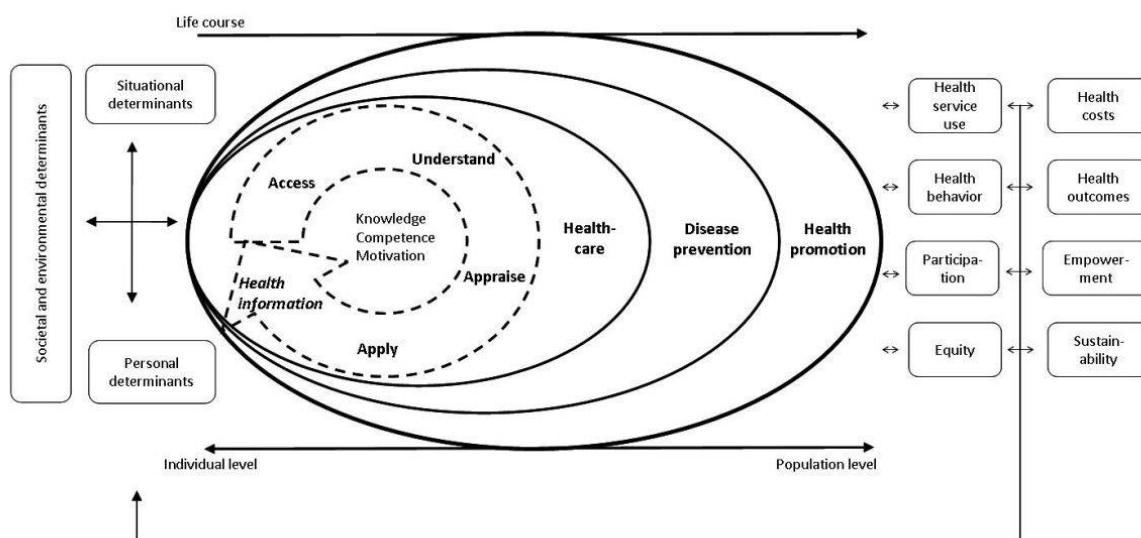
The model provides a template for developing and validating health literacy measurement tools. It also acts as a framework for developing health literacy interventions across settings and the life course.

The incorporation of a life course dimension gives rise to earlier concerns about the underrepresentation of children and adolescents in health literacy research (Manganello, 2008). Given the key preventative element in more recent models of health literacy, researchers are increasingly identifying childhood and adolescence as important developmental stages for addressing health literacy (Bröder et al., 2017). Due to limited understanding of the extent to which definitions and models of health literacy for children and young people are developmentally appropriate, a systematic review was conducted to

synthesise existing conceptualisation of health literacy in this population (Bröder et al., 2017). A total of 12 definitions and 21 models were identified that were developed specifically for children and adolescence. In line with the adult literature, health literacy was demonstrated to be a complex, multi-dimensional construct focused predominantly on the young person's skills and abilities, while acknowledging the interaction with social and contextual demands. The developmental appropriateness was most often considered in relation to cognitive abilities at different developmental stages.

Stage models such as this, which take a one-size-fits-all approach, miss the potential influence of environmental factors. Hierarchical social structures and the unique vulnerabilities of this population are therefore often neglected in existing models. Suggestions for future research include recognising not only the psychological influences on health literacy such as cognitive development, but also taking a sociological approach that incorporates the family and peer influences on both individuals' abilities and health outcomes, as well as the interaction with health, education and mass media systems (Bröder & Carvalho, 2019; Higgins, Begoray, & MacDonald, 2009; Manganello, 2008).

For any given population, health literacy can be both content and context-specific with over 100 specified types of health literacy identified to date (Sørensen, 2019). Mackert, Champlin, Su and Guadagno (2015) identify health literacy research in four categories specific to: population, context (e.g. online), language, and health condition (e.g. diabetes). Fragmentation of health literacy research has caused inconsistencies in the conceptualisation and measurement of the construct and therefore, as in Sorensen et al.'s (2012) integrated model, a general health literacy approach is encouraged. Despite the WHO's definition of health including 'mental wellbeing' (WHO, 2020), and visions to reduce the disparity of esteem between physical and mental health services with mantras such as 'no health without mental health' (Department of Health, 2011), MHL emerged as, and remains, an independent but related concept.

1.2.3 The Emergence of the Mental Health Literacy Field

MHL was first defined as "*knowledge and beliefs about mental disorders which aid their recognition, management or prevention*" (Jorm et al., 1997, p.182) and consisted of six domains: "*1) the ability to recognise specific disorders or different types of psychological distress; 2) knowledge and beliefs about risk factors and causes; 3) knowledge and beliefs about self-help interventions; 4) knowledge and beliefs about professional help available; 5) attitudes which facilitate recognition and appropriate help-seeking and 6) knowledge of how to seek mental health information*" (Jorm, 2000, p.396). Jorm (2012) later revised the domains to include early recognition, prevention and mental health first aid skills to support others. At the time, empowering the public to take action by increasing their understanding of mental disorders was seen to be neglected by the health literacy field (Jorm, 2019). The field of MHL, although informed by the health literacy field, has therefore evolved as its own independent field of study.

However, existing definitions of MHL have been criticised for their narrow focus on mental-ill health (Chambers, Murphy, & Keeley, 2015). In line with concerns about the fragmentation of the health literacy construct, O'Connor, Casey and Clough (2014) recommended avoiding disorder specific literacy and suggested that MHL definitions should refer to a range of disorders and experiences of mental distress. The overemphasis on recognition of mental disorders in Jorm's model, in addition to knowledge relating to risk factors, causes and appropriate treatments, has been further criticised for mapping onto psychiatric and biogenetic conceptualisations of mental illness (Gattuso, Fullagar, & Young, 2005; Read et al., 2006).

Recognising some of the limitations of existing MHL definitions, Kutcher, Wei and Coniglio (2016) redefined MHL to better align with more current health literacy definitions. They presented four broad domains: "*1) understanding how to obtain and maintain positive mental health, 2) understanding mental disorders and their treatments,*

3) decreasing stigma related to mental disorders, and 4) enhancing help-seeking efficacy (knowing when and where to seek help and developing competencies designed to improve one's mental health care and self-management capabilities" (p.155). The aim was to acknowledge the complete mental health state, focusing on the maintenance of positive mental health as well as the prevention of mental ill health, and more explicitly acknowledge the role of stigma reduction in mental health promotion. A move away from 'mental disorder' literacy and towards 'mental health' literacy has seen definitions expanded to include self-acquired skills and knowledge relating to positive psychology (Bjørnsen, Eilertsen, Ringdal, Espnes, & Moksnes, 2017; Kusan, 2013).

MHL must therefore be considered carefully in its two parts, and the literal translation of the terms 'mental health' and 'literacy' understood. In addition to recognising the complex interpretations of the term 'mental health', and incorporating a more sophisticated understanding of the complete mental health state beyond the dichotomy of illness and wellness (Keyes, 2005), the translation of the term 'literacy' must be considered in the context of mental health. What it means to be literate in any given subject is highly contested, but so is the definition of literacy across languages (United Nations Educational, Scientific and Cultural Organisation, 2006). By accounting for varying approaches, four types of literacy have been defined: literacy as an autonomous set of skills; literacy as applied, practised and situated; literacy as a learning process; and literacy as text. As identified in the health literacy field, literacy is most commonly thought of as a set of functional skills such as reading and writing. This 'autonomous' model of literacy assumes that literacy skills are neutral, universal and independent from the social context (Street, 2003). With this view, an increase in a person's literacy will produce positive social outcomes regardless of their circumstances.

Alternatively, the New Literacy Studies (NLS) movement suggests an 'ideological' model that understands literacy as a context specific social practice (Street, 2006). Literacy as text

understands how certain socio-cultural practices maintain a dominant discourse on a given topic (Gee, 1992). For example, socio-political approaches to MHL might be interested in mental health education as a practice to make dominant the psychiatric discourse. Considerations of the way social, cultural and political contexts in which school-based, mental health promotion interventions are situated is increasingly encouraged (O'Toole, 2017). Like health literacy, MHL research may need to better incorporate the interaction between individuals' abilities and their environment in future definitions.

As Mackert et al. (2015) outlined in relation to health literacy, the term can be conceptualised differently for different populations. At the time of developing this thesis, there were no known reviews of definitions and conceptualisations of MHL for specific populations; however, there is evidence of specific definitions emerging. For example, in a paper outlining the development of an educator MHL measurement tool, Fortier, Lalonde, Venesoen, Legwegoh and Short (2017) defined MHL as:

> *"knowledge, understanding, skill and confidence related to mental health and wellbeing",* specifically*: "1) General knowledge and skills for student mental health and well-being at school (e.g. creating welcoming and inclusive classroom environments, promoting stigma reduction, developing strong student–teacher relationships, noticing when a student is struggling with social-emotional or addictions problems, helping students along the pathway to, from and through care as needed), 2) Specific knowledge and skills to assist teachers in their delivery of mental health related instruction to students (e.g. instruction related to mental health aspects of the Health and Physical Education curriculum, delivery of social emotional learning instruction)"* (p.69).

With increasingly diverse and inclusive definitions of MHL has come concern about the consistent conceptualisation of the term across studies. Using existing understanding of

construct and theory development, Spiker and Hammer (2018) critically reviewed the MHL construct and highlighted a number of existing challenges. Increasingly stretched definitions have reduced construct travelling, with studies inconsistently interpreting definitions and therefore heterogeneously measuring the construct. For example, they found evidence of construct irrelevant variance in which a measure captures more than intended. Similarly, they identify issues with construct proliferation, in which studies use the same label for different conceptualisations and measurement and vice versa. The paper proposes understanding MHL as a theory instead of a construct given that it is made up of multiple domains that exist as constructs in their own right. For example, stigma and help-seeking efficacy are multi-faceted and complex constructs already known to be related in the literature (Clement et al., 2015; Gulliver, Griffiths, & Christensen, 2010).

As an increasingly used term, these debates about the MHL construct are important. Concerns about the transferability of the term across studies need further attention if the aim is to compare and synthesise MHL studies. What is currently missing from the field is a review of MHL studies conducted with adolescents. Given that the term MHL was first defined with the adult population in mind, understanding the conceptualisation of the term for use with adolescents is important. With an enlightened understanding of the complete mental health state beyond the dichotomy of illness and wellness, and new models of literacy that account for context, the adequacy of MHL research must be critically evaluated.

1.2.4   Measurement of Mental Health Literacy

O'Connor et al. (2014) reviewed MHL scale based measures and assessed the extent to which studies addressed all domains defined by Jorm et al. (1997). The most common domain, measured by eight of the 13 studies identified, was recognition of disorders. None of the studies assessed either knowledge of how to seek information or knowledge of self-treatment, however, all but one of the studies added new attributes, including knowledge of

onset and course of disorders, effective treatment and study specific knowledge for example, mental health first aid. The review excluded all disorder specific scales (i.e. depression literacy) on the premise that MHL, by definition, should include a range of mental disorders and types of mental distress. Although quite focused in its scope, this review highlighted issues with existing definitions of MHL and the impact on robust and consistent measurement of the construct.

Of the 13 studies identified, only two studies reported child and adolescent samples. Fraser and Pakenham (2008) measured knowledge of mental illness (5-items) and awareness of parental mental illness. Three items assessed knowledge of signs and symptoms using open responses and scored the number of correct facts reported (0-4). The remaining two items assessed the awareness of specific mental disorders. Yap, Reavley and Jorm (2012a) measured recognition of disorders using vignettes, beliefs about interventions, first aid beliefs and awareness of the Beyondblue, a national campaign. O'Connor et al. (2014) reported that Fraser and Pakenham (2008) measured none of Jorm's domains and (Yap et al., 2012a) only measured ability to recognise disorders. Neither measure was supported by a comprehensive psychometric assessment of reliability and validity for use with a child or adolescent sample. With adolescence identified as an important developmental stage for improving MHL, this highlights the need for a more comprehensive assessment of the measurement tools applied in MHL research with this population.

More recently, Wei, McGrath, Hayden and Kutcher (2015) conducted a scoping review of currently available MHL measures and their psychometric properties. The review identified 401 studies including 69 knowledge measures, 111 stigma measures and 35 help-seeking related measures. Knowledge measures mostly consisted of the ability to identify disorders or illness and factual knowledge such as terminology, etiology, diagnosis, prognosis and consequences of mental disorders. Stigma measures included those focused on stigma against mental illness or the mentally ill; self-stigma; experienced

stigma; and stigma against mental health treatment and help-seeking. Finally, help-seeking measures included those of help-seeking attitudes, intentions to seek help, and actual help-seeking behaviours. The psychometric properties of measurement tools were assessed using the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) checklist. Of the 69 knowledge measures identified, 14 were validated, 65 of the 111 stigma measures were validated, and 10 of the 35 help-seeking measures were validated. Of the 401 studies identified, 74 studies were conducted with child and adolescent samples. Individual child and adolescent studies could not be identified as the frequency of child and adolescent studies was only presented on a bar chart.

Following the scoping review, a set of papers were published that assessed measurement tools for three separate domains of MHL, namely mental health knowledge, stigma and help-seeking (Wei, McGrath, Hayden & Kutcher, 2016; 2017a; 2017b). Studies were included if they reported on the psychometric properties of the measure and the statistical analysis used to evaluate the measurement tool. Across the three reviews, 16 knowledge measures, 101 stigma measures, and 12 help-seeking measures were identified. Two of the 16 knowledge measures identified were tested on high school students. Hart et al. (2014) tested the Adolescent Depression Knowledge Questionnaire (ADKQ) with a population of grade nine American adolescents. The measure includes both binary response and fill-in-the-blank style questions about depression. Serra et al. (2013) tested the Knowledge of Mental Disorders Scale (KMDS) with Italian high school students. The KMDS assesses the ability to differentiate between somatic illnesses and mental disorders and uses '*yes*' '*no*' and '*I don't know*' responses to measure knowledge of diagnostic labels and symptoms of specific mental disorders. Only eight of the 101 stigma measures and six of the 12 help-seeking measures identified were tested on child and adolescent samples.

Overall, the systematic reviews concluded that evidence available on the measurement properties and overall psychometric quality of MHL measurement tools was mixed. Wei et

al. (2017b) suggested that only tools with strong psychometric properties should be used in future research and that attention should be paid to the generalizability of tools across diverse contexts and populations. It is important to note that despite the inclusion of 'understanding how to obtain and maintain positive mental health' in their recent MHL definition (Kutcher et al., 2016), no systematic literature review has been conducted to assess the measurement of this domain. Existing reviews of MHL-related measures are limited to specific domains and MHL definitions, and therefore do not address inconsistencies in conceptualisation.

1.2.5 Mental Health Literacy of Adolescents

The first national survey of MHL was conducted in Australia by Jorm and colleagues in 1995, and results published later in 1997 (Jorm et al., 1997). Over 2000 18-74 year olds were questioned about a vignette describing an individual with symptoms of either depression or schizophrenia based on diagnostic criteria. Participants were asked to indicate what kind of difficulty the individual was experiencing and if they could provide the correct diagnostic label. They were also asked to indicate the helpfulness of a range of professionals (e.g. general practitioner (GP), counsellor, psychiatrist, psychologist), and a number of standard psychiatric treatments. Despite many participants recognising that the individual was experiencing difficulties (72-84%), few could accurately label depression (39%) and schizophrenia (27%). Overall, GPs and counsellors were rated as more helpful than psychiatrists and psychologists. Many standard psychiatric treatments were often rated as harmful, leading the authors to conclude that the level of population MHL needed improving, in particular relating to psychiatric treatments (Jorm et al., 1997). An alternative interpretation of these findings could be that the public did not endorse a biomedical or psychiatric discourse. It is therefore important to ensure that literacy is not viewed as the acceptance of one professional discourse, but is instead an assessment of

comprehension and critical appraisal of information relating to the complete mental health state.

In 2006, and later in 2011, Jorm and colleagues conducted national surveys of Australian youths' MHL. Young people aged 12-25 showed a preference for informal sources of help with few (4-13%) reporting that they would seek help from a GP (Jorm, Wright, & Morgan, 2007). Almost three quarters of young people aged 15-25 were able to recognise the symptoms of depression; however, approximately a third were able to correctly label schizophrenia and post-traumatic stress disorder (PTSD), and only 3% correctly identified social phobia from a vignette (Reavley & Jorm, 2011a). The same survey revealed that young people perceived high levels of public stigma, and beliefs that social phobia was related to personal weakness, and schizophrenia to dangerousness and a desire for social distance (Reavley & Jorm, 2011b). Furthermore, across both surveys, young people generally endorsed strategies such as physical activity and contact with family and friends for preventing the mental disorders presented in the vignettes (Yap et al., 2012b).

In an early review, Kelly, Jorm and Wright (2007) revealed that approximately 50% of adolescents lacked the ability to recognise specific mental disorders. Adolescents generally showed a preference for informal sources of psychological support despite endorsing professional help for their peers. Results also revealed negative views about psychiatric medication with fewer than 50% of young people recommending anti-psychotics when presented with a vignette describing an individual experiencing psychosis. Although this report provided a summary of some adolescent MHL research, it was not a full systematic literature review. Furthermore, a large number of adolescent MHL studies have been conducted since 2007. A review is needed to explore the extent to which a psychiatric discourse still dominates the MHL field, and to critically evaluate the level of methodological homogeneity for potential meta-analysis of the adolescent MHL literature.

Vignette methodology has increasingly been adopted worldwide to assess domains of MHL, often problem recognition, in adolescent populations. For example, studies have been conducted in the US, Portugal, Sweden, UK, Japan, and Sri Lanka (Attygalle, Perera, & Jayamanne, 2017; Furnham, Annis, & Cleridou, 2014; Loureiro et al., 2015; Loureiro et al., 2013; Melas, Tartani, Forsner, Edhborg, & Forsell, 2013; Olsson & Kennedy, 2010; Yoshioka, Reavley, Hart, & Jorm, 2015). Studies revealed varying levels of disorder recognition with most studies reporting recognition rates of 50% or less. Portuguese youth showed higher rates of depression recognition, approximately 75% and between 62.3% and 82.2% of Sri Lankan youth could recognise depression, schizophrenia and social phobia (Attygalle et al., 2017; Loureiro et al., 2015; Loureiro et al., 2013). Japanese youth were found to have very low recognition rates approximately 8.3% - 26.8% depending on the mental disorder presented (Yoshioka et al., 2015). Adolescents from the UK were found to be far better at recognising eating disorders (59.9% - 67.8%) compared with depression (49.9%), schizophrenia (38.9%), bipolar (28.4%) and social phobia (18.9%) (Furnham et al., 2014). These could be genuine cross cultural differences in problem recognition; however, although vignette methodology is used, no review exists that explores the homogeneity of items relating to the vignettes across studies.

A number of the above studies found that teachers were rated as less helpful by young people than family and health professionals (Furnham et al., 2014; Loureiro et al., 2015; Loureiro et al., 2013). However, as was found by Jorm et al. (2007), only a minority of Swedish adolescents suggested professional help for managing symptoms of depression (22.5%) and schizophrenia (32.6%) (Melas et al., 2013). Research has also been conducted exploring knowledge and attitudes relating to helping a friend experiencing mental health difficulties, otherwise known as mental health first aid. Yap et al. (2012c) found that more than half of young people surveyed reported that they would talk and listen to someone experiencing difficulties. However, less than half felt confident in helping a peer, and only

44% suggested encouraging professional help-seeking. With the emergence of mental health first aid research, it is important for future research to make a distinction between intra-personal MHL research (e.g. relating to self) and inter-personal findings relating to supporting others, how interventions influence these different types of outcomes, and how they relate to each other.

A review of the adolescent literature relating to barriers and facilitators for seeking help for mental health problems revealed that the inability to recognise problems as well as a preference for dealing with problems alone were key barriers (Gulliver et al., 2010). Australian surveys have also found that embarrassment and fear of what others might think are commonly reported barriers to seeking professional help (Jorm et al., 2007; Yap, Reavley, & Jorm, 2013a). In a study of stigmatising attitudes and help-seeking intentions, vignettes were presented with young people displaying symptoms of a range of diagnosable mental disorders. Participants that reported a greater desire for social distance from the individual, and beliefs that they showed signs of personal weakness were less likely to seek professional help. The belief that mental illness is associated with dangerousness and unpredictability however, was associated with higher reported help-seeking intentions (Yap et al., 2013b).

Clement et al. (2015) reviewed the wider literature relating to the relationship between mental health-related stigma and help-seeking, and found a small to moderate negative effect. Specifically, treatment stigma and internalised stigma were most consistently found to be negatively associated with help-seeking. One issue noted was that most studies assessed help-seeking attitudes or intentions as opposed to actual help-seeking behaviour. Although there is research to suggest that after controlling for previous mental health service use, attitudes towards help-seeking predict behaviour (Ten Have et al., 2010), others suggest that more research is needed to understand the extent to which hypothetical or intended behaviours predict actual behaviour change (Eisenberg, Downs, & Golberstein,

2012; Thornicroft, Rose, & Kassam, 2007). In relation to mental health first aid intentions and actions, the results have been mixed. Beliefs and intentions relating to helpful first aid actions were found to predict mental health first aid behaviour. However, intention to encourage professional help-seeking did not translate into action (Yap et al., 2012c). Given the varied and complex findings relating to levels of MHL in the adolescent population, and the relationship between MHL domains, school-based MHL interventions can be seen as complex interventions, characterised by multiple components that may interact with each other and with usual school provision.

1.2.6   School-based Mental Health Literacy Interventions

Often, complex interventions aim to improve multiple outcomes or target multiple groups (Craig et al., 2008). MHL interventions can be whole population campaigns, targeted campaigns (e.g. youth, school-based interventions), or training programmes to increase professionals' MHL (Kelly et al., 2007). A school-based MHL intervention may aim to improve the MHL of teachers, students or both (e.g. Kutcher, Wei, McLuckie, & Bullock, 2013). The focus may also be on general MHL, or specific to a particular diagnosis (for example, depression literacy) (e.g. Swartz et al., 2017). Cairns and Rossetto (2019) suggest that MHL can be improved across the spectrum of mental health interventions e.g. mental health promotion, prevention and early intervention. For example, they link knowledge of how to prevent mental disorders with mental health promotion and prevention interventions, and help-seeking knowledge to early intervention.

In line with early definitions of MHL, these interventions are typically associated with universal, informational prevention, as defined by Foxcroft (2014a), providing education to enhance the populations' knowledge and beliefs relating to mental disorders for their recognition, prevention and management (Jorm et al., 1997). However, with an evolving definition of MHL, related interventions are becoming conceptually complex. For example, with the addition of skills for mental health promotion and mental health first aid

to support others. With that comes greater difficulty in operationalising what is meant by a MHL intervention, the mechanisms through which they are a success, and how best to measure their effectiveness.

Wei, Hayden, Kutcher, Zygmunt and McGrath (2013) systematically reviewed the effectiveness of school-based MHL interventions for young people aged 12-25, with the aim of improving knowledge, help-seeking and reducing stigma. A total of 27 articles were included that reported on these outcomes, and had one of the following designs: (cluster) randomised controlled trials (RCTs), quasi-experimental, and controlled-before-and-after. Of the studies identified, 16 focused on general MHL and 11 on diagnosis-specific literacy. The most commonly measured MHL domain was attitudes towards mental illness, with twenty-one studies reporting attitudes as an outcome. Knowledge was measured as an outcome in 15 studies, and actual or intended help-seeking behaviour in eight studies. The majority (n = 19) were not delivered by teachers but by mental health professionals or individuals with experience of accessing mental health services, and over half of studies (n = 14) were conducted in the US. Although most studies reported that the MHL intervention had a positive effect on outcomes, the quality of evidence was limited and methods too heterogeneous for meta-analysis. For example, only five studies had an RCT design and few studies used validated measures of knowledge, stigma and help-seeking. Wei et al. (2013) concluded that the evidence was of insufficient quality to determine the overall effectiveness of school-based MHL interventions, and that more research was needed relating to intervention implementation to better understand successful components.

Since then, a number of RCTs have been published globally evaluating the efficacy of a range of school-based MHL interventions. Head Strong is a universal, classroom-based educational resource developed in Australia to improve students' MHL. The curriculum-based programme was evaluated in a cluster RCT involving 380 students from across 10 Australian secondary schools (Perry et al., 2014). Students' depression literacy

significantly improved in the Head Strong condition at post-intervention and at a 6-month follow up, and depression stigma was significantly reduced. Designed to meet curriculum requirements, Head Strong has seen good national uptake following translational work by the Black Dog Institute such as publicising and making the resource freely available across the country (Werner-Seidler, Perry, & Christensen, 2016). Also developed in Australia, teen Mental Health First Aid (tMHFA) is a short course for adolescents aged 16-18, delivered by a specially trained instructor (Hart, Mason, Kelly, Cvetkovski, & Jorm, 2016). The course aims to increase students' MHL with a specific focus on improving mental health first aid behaviours for supporting others. Using vignette methodology previously described, tMHFA was found to significantly improve helpful first aid intentions in a cluster RCT (Hart et al., 2018).

In Canada, the Mental Health and High School Curriculum Guide (The Guide) was developed by Kutcher and colleagues in collaboration with the Canadian Mental Health Association, and was originally a web-based resource consisting of a set of evidence-based modules aiming to increase the MHL of teachers and students aged 13-15. In line with Kutcher et al.'s (2016) definition of MHL, The Guide covered four broad domains relating to understanding how to obtain and maintain positive mental health, understanding mental disorders and their treatments, decreasing stigma related to mental disorders, and enhancing help-seeking efficacy (Kutcher et al., 2016). Overall, The Guide consisted of six modules that mapped onto this definition: 1) Stigma of Mental Illness, 2) Understanding the Relationship between Mental Health and Mental Illness, 3) Understanding Specific Mental Illnesses, 4) Adolescents' Experiences of Mental Illness, 5) Seeking Help and Finding Support, and 6) The Importance of Positive Mental Health. The modules were designed to be taught by class teachers across 10-12 hours, with each session taking approximately 60 minutes. Modules included PowerPoint presentations and activities, as well as additional online materials and teacher study resources.

The first evaluations of The Guide were conducted in Canada, with class teachers delivering the modules to grade nine health classes. Across multiple pre-post follow up studies, The Guide was found to significantly improve teachers' and pupils' mental health knowledge and attitudes towards mental illness, with some sustained effects (Kutcher et al., 2013; Kutcher, Wei, & Morgan, 2015; McLuckie, Kutcher, Wei, & Weaver, 2014). In addition, The Guide was delivered to Canadian pupils in grades 11 and 12 as part of a RCT (Milin et al., 2016). For those that received The Guide, significant improvements in mental health knowledge and attitudes towards mental illness were found. No significant improvements were found for the control group.

The Guide has also been culturally adapted and evaluated abroad and is therefore an example of the increasing transportation of school-based mental health education interventions. For example, in Tanzania and Malawi, significant improvements were found in teachers' mental health knowledge, attitudes and help-seeking efficacy following The Guide training (Kutcher et al., 2015; Kutcher et al., 2016; Kutcher et al., 2017). Furthermore, a Spanish version of The Guide was more recently trialled in a parallel-group, controlled pilot in Nicaragua (Ravindran et al., 2018). Results indicated that high school and university students that received The Guide curriculum reported significantly higher mental health knowledge, lower stigma, more adaptive coping, better lifestyle choices, and lower perceived stress at 12-week follow up. With the growing importation of school-based MHL interventions, it is increasingly important to conduct implementation and process evaluations alongside efficacy trials, and investigate any necessary cultural adaptations.

Few studies have been conducted in the UK that evaluate school-based MHL interventions, and even fewer have measured social validity and components of implementation (e.g. fidelity). Pinfold et al. (2003) conducted a pre-post intervention study to assess the impact of school-based mental health awareness workshops on negative stereotypes associated

with severe mental illness. Students completed a survey pre-intervention, 1 week post-intervention and 6-months following the intervention. The survey included factual and attitudinal statements to assess knowledge of intervention content, as well as stigmatising attitudes. Four social distance rating scales were also included to assess intended behaviours towards individuals experiencing mental health difficulties. Results indicated an increase in positive attitudes post-intervention and at 6-months follow up. Personal contact with individuals with lived experience of mental health difficulties, and being female, predicted greater improvements in positive attitudes.

In a more recent pre-post intervention study, Patalay et al. (2017) explored the effectiveness and acceptability of Open Minds, a secondary school-based MHL programme delivered by university medical students. A number of MHL domains were measured including non-stigmatising attitudes, knowledge, social distance and help-seeking attitudes. University students reported increased teaching efficacy, and over 70% of the secondary school students perceived Open Minds to be enjoyable and acceptable. The intervention was also found to significantly improve secondary school students' knowledge, attitudes and help-seeking, indicating its potential as a peer-led model for increasing MHL.

A full cluster RCT has also been conducted in Birmingham to evaluate the effectiveness of School Space, a knowledge/contact intervention developed with the aim of improving secondary school students' MHL, with a primary focus on reducing mental illness stigma (Chisholm et al., 2016). The one-day educational intervention was delivered by a mental health professional and, in the contact condition, pupils interacted with a young person with lived experience of mental health difficulties. The educational intervention was found to significantly increase mental health knowledge and reduce stigma, as well as improve pupils' resilience and well-being. However, contact with an individual with lived experience had detrimental effects on outcome measures. A fidelity assessment was

conducted alongside the intervention evaluation, and found a high level of fidelity in terms of timing, content and teaching methods.

To date, few studies have assessed the sustained effects of interventions (Cairns & Rossetto, 2019). There is some evidence that improved MHL is maintained for up to two to three months post-intervention (Mcluckie et al., 2014; Ojio, Yonehara, & Taneichi, 2015; Pinto-Foltz, Logsdon, & Myers, 2011). Furthermore, Perry et al. (2014) included a 6-month follow up in their RCT of Head Strong and found that despite slightly diminished gains in MHL, the effect remained relative to baseline. However, the opposite was found by Pinfold et al. (2003), with no sustained improvements in MHL at 6-month follow up. Future trials of MHL interventions should include 6-month and even one year follow ups, to better understand long term effectiveness.

In addition, few evaluations of school-based MHL interventions have assessed aspects of implementation alongside the main efficacy trial, with those that have, assessing only one component (e.g. fidelity) (Chisholm et al., 2016). Reviews of the literature have therefore called for future research that explores the strengths and weaknesses of interventions for successful implementation (Salerno, 2016; Wei et al., 2013). Furthermore, given that school-based MHL interventions rely on knowledge acquisition, Cairns and Rossetto (2019) suggest more research is needed that adopts mediation analysis to identify 'active ingredients' of promising MHL interventions. Understanding the core components of successful school-based MHL interventions is particularly important when culturally adapting and trialling them abroad.

1.3   Summary of the Gaps in the Literature

In the context of increased responsibility for schools to support students' mental health, including the introduction of compulsory mental health education, we know very little about 'what works', how and why in English schools. One possible model for school-based mental health education is to implement teacher-led MHL interventions. As an evolving

field, there is a need for greater conceptual clarity both in terms of what is meant by a MHL intervention, and the way in which researchers can measure their effectiveness. With emerging new definitions and criticisms of the MHL construct, the validity of MHL research needs evaluating. Extant reviews of MHL related measures are limited to specific definitions of the term and are therefore not inclusive enough to fully understand the conceptualisation of MHL in the field.

Adolescence has been identified as an important developmental phase for increasing MHL, and research in this areas is increasing. To date, no systematic reviews specifically focus on adolescent populations; there is therefore no existing review that critically appraises, synthesises and meta-analyses adolescent MHL data from across both population studies and intervention evaluations. Although limited in scope, existing reviews indicate that the psychometric quality of MHL measures is mixed and predominantly assessed in adult samples. It has also been found that some domains of MHL are more frequently assessed than others, with more research needed to explore hypothetical and intended as well as actual behaviour. Again, no study has specifically focused on the measurement of MHL in adolescent research. This thesis fills the identified gap by presenting a systematic literature review of the existing conceptualisation and measurement of MHL in adolescent research. It provides a critical evaluation of existing literature with this population, and explores the level of conceptual and methodological homogeneity in the field highlighting some challenges and inconsistencies. In addition, this thesis presents a comprehensive assessment of the psychometric properties and age appropriateness of a MHL-related measure of stigma related behaviours and intentions for use with adolescents. It therefore fills two gaps in the literature. First, the lack of psychometric assessments of MHL-related measures for use with adolescents. Second, the lack of measures more generally relating to actual and hypothetical behaviours.

There is also limited research, particularly in England, relating to educators' MHL and capacity to deliver school-based mental health education and support students' mental health. Although globally some literature exists relating to teachers' ability to recognise symptoms of mental disorders, more research is needed to understand the lack of confidence identified in school staff for providing active support to students. Conceptual frameworks for school-based, preventive interventions recognise that to some extent, school staffs' capacity depends on school-level characteristics. Existing literature has identified barriers that schools face in delivering effective mental health provision; however, there are no known studies that model school-level characteristics and provision, as well as individual predictors of educators' MHL and capacity. Study Three of this thesis fills this gap by exploring the psychometric properties of a measure of educators' MHL and capacity to support students' mental health, and presents evidence of the level of MHL and capacity of a large sample of educators in England. Individual and school-level predictors are then modelled against educators' outcomes.

Despite an increase in RCTs to evaluate school-based MHL interventions, there remains a lack of translational research such as process and implementation evaluations to better understand the social validity of interventions, including their feasibility, and any necessary adaptations. This is particularly important in the context of increased trials of MHL interventions outside of their country of origin. More research is needed that qualitatively explores the cultural transferability and adaptation of imported, school-based MHL interventions. This could help to fill gaps in the literature relating to the strengths and weaknesses of MHL interventions for successful implementation, and clarify core components or 'active ingredients' for effective school-based MHL curricula. The last study presented in this thesis contributes a unique qualitative investigation of the cultural adaptation of a Canadian, school-based MHL curriculum for the English school context.

1.4   Chapter Summary

This chapter firstly provided context for the thesis in terms of the prevalence of adolescent mental health difficulties, the greater pressure on services, and increasingly schools, to support young people's mental health, and the barriers currently being faced by schools in England to providing effective mental health provision. Furthermore, this chapter positioned MHL within the health literacy field, and presented the evolution of the MHL construct. Levels of adolescent MHL were described along with a review of existing school-based MHL interventions and their effectiveness. Clear gaps in the literature were identified. The next chapter provides an overview of the Education for Wellbeing (EfW) Programme including a summary of my contributions, and positions my thesis within the wider programme of work. For each of the four original studies presented within the thesis, the rationale, aims and research questions are presented along with a justification of the methodology.

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2   CHAPTER TWO: OVERVIEW OF THESIS

This thesis utilised data from the Education for Wellbeing (EfW) Programme, funded by the Department for Education (DfE), England. The project is led by Professor Jessica Deighton and is a collaboration between the Evidence Based Practice Unit (EBPU), partner of University College London and the Anna Freud National Centre for Children and Families (AFNCCF), and the University of Manchester. Co-authors on papers presented in this thesis include Professor Neil Humphrey, the EfW Programme Implementation and Process Monitoring Lead, Dr Praveetha Patalay, an EfW Programme advisor with specific expertise in measurement, statistics and mental health literacy (MHL), Dr Emily Stapley, the programme's Qualitative Lead, and Anna Moore, a fellow PhD Researcher. While the researchers named above are co-authors on papers presented in this thesis, all studies were developed and carried out by me, from inception to submission for publication. Throughout my PhD, I have worked as a Research Assistant on the EfW Programme, contributing to all strands of the evaluation. I am therefore a co-author on a number of reports and papers beyond those presented in this thesis; these were presented at the start of the thesis with links to the publications.

In the first year of my PhD, I contributed to the EfW feasibility study, and in my second and third years I worked across the two parallel group cluster randomised controlled trials (RCTs) that make up the programme (detailed below). At the time of writing (July, 2020), the trials are still in progress with the final results originally scheduled to be published in 2021. Given considerable disruption to the trial due to Covid-19 and school closure, the EfW team are currently working with the DfE to plan options for the trials' completion to ensure that they are fully powered.

I independently developed the studies that make up this thesis alongside the EfW Programme, focusing on questions distinct from the programme's overall aims. This was sometimes limiting in terms of the possible scope of the thesis. For example, the EfW

Programme aims to evaluate the efficacy of a range of school-based mental health and wellbeing interventions, and the measurement framework was selected to be relevant across all conditions with limited participant burden. It was therefore not designed for the specific focus of my thesis; limitations of conducting secondary analyses are addressed in the relevant chapters. In addition, data from the National Pupil Database for children and young people involved in the programme (2018-2019) were only recently requested (April, 2020). I therefore had access to very limited demographic information when developing the papers for my thesis. This led me to develop a broad scope of theoretical, methodological and practical research questions relating to MHL interventions, from a range of stakeholder perspectives. The aim was to present a body of related but independent studies to contribute to knowledge gaps identified in the MHL field. Journal format was therefore judged to be the most appropriate format for my thesis, writing papers as data were collected as part of the EfW Programme.

Although there were some limitations to developing my thesis secondary to the EfW Programme, I have benefited greatly from working on the wider project. First, for the thesis, this meant access to large and representative data sets for school staff and students in England. I was therefore powered to answer questions that have not yet been investigated before (e.g. to what extent do school level characteristics and provision predict educators' MHL and capacity to support students' mental health?). Second, working across two trials, and on both the quantitative and qualitative strands, has really helped me develop my research skills and grow as a mixed methods researcher. I have also gained expertise in trial methodology, including working with a large number of schools and conducting implementation and process monitoring. Finally, it has offered the opportunity for collaborations beyond the papers within my thesis. I therefore have a lot of experience writing for publication, and have made contributions to the conceptualisation, analysis and writing of a number of articles.

This chapter provides an overview of the EfW Programme, my contributions, and the four studies presented in this thesis. Study One (systematic literature review) and Study Two (psychometric validation), are published. A full reference is therefore provided for each paper with links to the published versions. Both Study Three (multi-level model) and Study Four (qualitative study) are currently under review. An outline of each study is provided including the author contributions, rationale, aims and research questions, specific EfW data source (where applicable) and a justification of methodology. The aim is to give an overview of studies, focusing on the justification for the research questions and methods adopted. Given that each study is written up in journal format, further detail is provided in the introduction and method sections of each paper.

2.1   Education for Wellbeing Programme

The EfW Programme is an evaluation of five school-based, mental health and wellbeing interventions, separated into two parallel group cluster RCTs. Links to the full published trial protocols, on which I am a co-author, were included at the start of the thesis (Hayes et al., 2019a; Hayes et al., 2019b). Prior to the RCTs, all interventions were piloted and culturally adapted or further developed in a feasibility study (detailed below).

Approaches for Wellbeing and Mental Health Literacy: Research in Education (AWARE)

The DfE identified school-based, mental health education interventions with evidence of effectiveness in their country of origin. Youth Aware of Mental Health (YAM) and The Mental Health and High School Curriculum Guide (The Guide) were selected to be compared to a usual school provision (control) condition. Originally designed for suicide prevention for ages 14-16 years, YAM aims to increase mental health awareness through youth-led discussions, role-plays and problem solving relating to depression and suicidal thoughts, managing emotionally charged dilemmas, situations and crises, and awareness of choices. It consists of five, one-hour sessions delivered in classrooms by specially trained

YAM instructors and helpers with a background in youth or social work, education, psychology or nursing. YAM has previously been trialled across 10 European countries (Wasserman et al., 2010), and was found to significantly reduce suicidal ideation and the number of suicide attempts made by school-based adolescents at 12-month follow up when compared to the control group (Wasserman et al., 2015). More recently, in a pre-post evaluation of YAM in the United States (US), adolescents reported significantly increased MHL including help-seeking behaviours and reduced stigma three months post-delivery (Lindow et al., 2020). Full details of YAM can be found in the AWARE protocol (Hayes et al., 2019b).

The Guide has already been detailed in the thesis introduction (Chapter One), and is the main focus of Study Four (Chapter Six). In line with the focus on MHL interventions, Study Four focuses on the cultural adaptation of The Guide. The intervention was selected as a teacher-led MHL curriculum, and was therefore perceived to be more relevant to the introduction of compulsory mental health education in English schools. To avoid repetition across the introduction and Chapter Six (qualitative study), a description of The Guide, and literature relating to its existing evaluations, are not included here. Study Four is a qualitative investigation of the cultural adaptations made and suggested to The Guide by school staff involved in the EfW feasibility study. The introduction to this paper therefore includes a full overview of the intervention and all relevant literature.

Interventions in Schools for Promoting Mental Wellbeing: Research in Education (INSPIRE): Mindfulness Practices, Relaxation and Strategies for Safety and Wellbeing (SSW)

The DfE reviewed popular school-based approaches for improving mental health and wellbeing that currently lacked a strong evidence base. Approaches were carefully considered in terms of their likely acceptability and feasibility for roll out if found to be effective. Mindfulness Practices, Relaxation and SSW (informed by principles of

Protective Behaviours), were developed for comparison against a usual school provision (control) condition. Given that my thesis does not directly relate to these approaches, I do not provide an overview of interventions here. Descriptions of all interventions are provided in the INSPIRE protocol (Hayes et al., 2019a). Interventions were developed specifically for the EfW Programme by the AFNCCF Schools Programme Lead (Dr Rina Bajaj).

2.1.1 Feasibility Study

All interventions were piloted in a feasibility study (2017-2018) in order to inform the full RCTs, AWARE and INSPIRE (2018-2021). The aims of the feasibility study were to adapt the nature and scheduling of intervention delivery to the English school context, pilot the proposed measurement framework, and use quantitative survey data to estimate intraclass correlation coefficients for outcome measures.

Method for Feasibility Study

Sample and Procedure

In 2017, the EfW feasibility study was advertised through AFNCCF's existing school networks and schools expressed interest in the study via an online form. Allocations to either AWARE (YAM or The Guide) or INSPIRE (Mindfulness Practices, Relaxation or SSW) were based on whether a school was primary vs. secondary, the school's intervention preference, and eligibility criteria (e.g. able to facilitate weekly YAM sessions taught by an external instructor). A total of N = 20 schools participated in the feasibility study. All schools allocated to The Guide (n = 4), YAM (n = 2), and Mindfulness Practices (n = 5), were located in the South East of England. For Relaxation (n = 4) and SSW (n = 5), six schools were located in the South East of England, and three were located in Greater Manchester.

Secondary schools allocated to AWARE were asked to select three year nine or 10 classes/delivery groups (ages 13-15) that would receive either YAM or The Guide depending on their allocation. Primary and secondary schools allocated to INSPIRE, were asked to select one or two year four and five classes/delivery groups (ages 8-10), and up to three classes/delivery groups in year seven and eight (ages 11-13) respectively. Next, schools sent information sheets to parents/guardians of students in these groups; at this stage parents had the right to opt their child out of the evaluation. A total of $N = 3,280$ students were recruited across schools (primary $n = 1,457$, secondary $n = 1,823$). Once parental opt-outs were accounted for, the total sample of students was $N = 3,193$.

Secure online surveys were completed by students at baseline (prior to allocation), and 3-6 months post-intervention delivery in teacher facilitated sessions. At the beginning of all surveys, students were presented with an information sheet and were given the opportunity to opt-out by not providing assent to participate. In addition, a key contact from each school completed a school mental health provision survey at baseline, and all staff selected to be involved in the implementation of interventions were asked to complete baseline and follow up surveys. Details of all surveys and measures included in both the EfW feasibility study and the AWARE and INSPIRE trials are included in Table 2.1.

Implementation and Process Evaluation

In addition to the pre-post school staff survey, those that delivered the interventions were sent a survey following the implementation period. This survey included items relating to their perceived social validity of the intervention (acceptability, appropriateness and feasibility), as well as questions relating to fidelity, dosage, reach, students' responsiveness, quality of delivery and adaptations. To provide a more in depth understanding of intervention implementation, a selection of case study schools were also visited as part of a qualitative strand.

Case Study Schools

Information about becoming a case study school was presented on the intervention training days, and schools were invited to express their interest by contacting the research team via email. Once a school expressed interest, the relevant information sheets were sent to the school's key contact (e.g. parental information and consent forms for student interviews and focus groups), who then liaised with the research team to arrange a mutually convenient date, and produce a timetable for the day. Case study visits involved allowing two researchers to visit the school for one day during the mid to late intervention implementation period. Researchers observed an intervention session, and conducted one-to-one interviews with school staff responsible for the planning and/or delivery of the intervention. A combination of one-to-one interviews (with secondary school students only) and focus groups were conducted with students who had received the interventions.

Interviews and focus groups were conducted using a semi-structured approach, which allowed the flexibility for participants to introduce new but relevant perspectives and experiences, while ensuring the coverage of specific topics using a set of pre-defined questions (Galletta, 2013). For school staff, the interview schedule included questions relating to opinions on the content and structure of interventions for the English context, and suggested improvements, experiences of implementing, including any adaptations made and why, and the perceived impact for students. Student focus groups included questions relating to their experiences of and opinions on the interventions, suggestions for improvements, perceptions of impact and their experiences of and opinions on completing the EfW surveys.

In total, N = 11 schools became case studies, with researchers visiting two schools for each intervention. Phone interviews were also conducted with staff from one school who, following the training, did not feel able to implement The Guide (more detail on this in Study Four). Across schools, a total of N = 31 school staff were interviewed. In addition, a

total of N = 13 one-to-one student interviews were conducted, and N = 15 focus groups with a total of N = 60 participants. Study Four analysed interview data from staff at schools allocated to implement The Guide in the EfW feasibility study (N = 11), as well as notes from the observed sessions (N = 2).

Adaptations to AWARE Interventions

The feasibility study informed adaptations to the nature and scheduling of interventions for the English school context. Apart from the inclusion of nationally and locally relevant resources and support services, YAM remained very much true to the original version. The only other adaptation made following the feasibility study was to deliver the hour long sessions over five consecutive weeks instead of the originally proposed 5 hours across three weeks. When compared with YAM, The Guide underwent more adaptation for the English school context, all of which were approved by the intervention developer. Study Four provides an in depth analysis of the cultural transferability of The Guide by exploring cultural adaptations made by school staff involved in the feasibility study. This paper also provides a detailed description of adaptations made to The Guide following the EfW feasibility study.

2.1.2   AWARE and INSPIRE

AWARE is a three-arm cluster RCT consisting of two interventions, YAM and The Guide, and a usual school provision (control) condition, and INSPIRE is a four-arm cluster RCT consisting of three interventions, Mindfulness Practices, Relaxation and SSW, and a usual provision (control) condition.

Aims and Hypotheses

The primary aim of the AWARE and INSPIRE trials was to evaluate the effectiveness of the interventions compared to usual school provision (control). For YAM, Mindfulness

Practices and Relaxation, the primary outcome was emotional difficulties (internalising difficulties), and therefore the aim was:

- To examine whether YAM, Mindfulness Practices and Relaxation are more effective than usual school-based provision in reducing emotional difficulties (internalising difficulties) in young people.

The primary outcome for The Guide and SSW was help-seeking intentions, the aim was therefore:

- To examine whether The Guide and SSW are more effective than usual school-based provision in increasing intended help-seeking of young people around mental health.

It was hypothesised that young people receiving interventions will report lower emotional difficulties, and increased intended help-seeking, at 3-6 and 9-12 months' follow up compared to those who received usual school-based provision.

Implementation and Process Evaluation

Given that YAM and The Guide were imported from other countries and culturally adapted for delivery in the English school setting, and that the Mindfulness Practices, Relaxation and SSW were new interventions developed for the EfW Programme, a full process and implementation evaluation was conducted in both trials to understand factors beyond effectiveness. This included understanding existing school-based mental health provision, fidelity and dosage of intervention implementation, the relationship between implementation variability and intervention outcomes, experiences of implementing staff and intervention sustainability.

Cost Effectiveness

A health economist (Dr Eva-Maria Bonin) from the London School of Economics (LSE) led a cost effectiveness evaluation alongside the main efficacy and implementation and process evaluations. This strand aimed to understand to what extent the interventions are cost effective when compared to usual school provision (control) in terms the primary outcome (internalising difficulties/help-seeking intentions) and quality of life.

Recruitment and Sampling

School recruitment for the AWARE and INSPIRE trials began in March 2018. Recruitment was conducted in two waves: wave one (2018) and wave two (2019) to achieve the large numbers of schools required to power the studies. The AWARE trial aimed to recruit 144 secondary schools, and the INSPIRE trial aimed to recruit 64 secondary schools and 160 primary schools. For both waves of recruitment, the EfW Programme was advertised via a range of platforms including paid-for school databases, the AFNCCF Schools in Mind network, Public Health England, the National Institute for Health Research, school commissioners, and local authorities. In addition, the programme was advertised in education publications and resources and via various social media channels. Schools completed an online expression of interest form to ensure they were able to meet the requirements of the EfW Programme. Non-mainstream specialist schools, schools that had already taken part in similar trials, and those outside of England were not eligible. The requirements for the number of classes/delivery groups for primary and secondary schools across the AWARE and INSPIRE trials was the same as the feasibility study, except for AWARE, in which schools were asked to select three groups from year nine (ages 13-14) only.

Randomisation of Schools

Random allocation was clustered i.e. conducted at the school level and conducted with an equal allocation ration. Schools were randomly allocated to intervention and control conditions by an independent team at the Clinical Trials Unit at King's College London following baseline data collection of school staff and student surveys. Minimisation was applied for school mental health provision scores at baseline, regional representation, urban/rural location and deprivation as measured by free school meal eligibility.

Timeline for Data Collection

Across both parallel group cluster RCTs (AWARE and INSPIRE), outcomes are measured at baseline (prior to random allocation), 3-6 months post-intervention delivery period and again at 9–12 months after intervention delivery.

Measures

Table 2.1 provides an overview of the surveys at the school level, teacher/school staff level and student level across both the feasibility study and AWARE and INSPIRE trials, and at each time point. The school mental health provision survey is outlined in more detail below in relation to Study Three and in Chapter Five. For studies Two and Three that utilised EfW survey data, the exact data source is labelled in Table 2.1. Further details of the specific data sources are presented below in the study descriptions.

Table 2.1 *Overview of education for wellbeing surveys and measures*

Survey	Feasibility Study Baseline		Feasibility Study Follow Up		AWARE Baseline		AWARE Post-delivery (3-6 months)		AWARE Follow Up (9-12 months)		INSPIRE Baseline		INSPIRE Post-delivery (3-6 months)		INSPIRE Follow Up (9-12 months)	
School Level																
Mental Health Provision Survey	✓				✓ Study 3						✓ Study 3					
Teacher/School Staff Level																
Mental Health Literacy and Capacity Survey for Educators (MHLCSE) (Fortier et al., 2017)	✓		✓		✓ Study 3		✓		✓		✓ Study 3		✓		✓	
Student Level	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
Huebner Life Satisfaction Scale (LSS) (Huebner, 1991)	✓	✓	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓	✓
Short Mood and Feelings Questionnaire (SMFQ) (Angold et al., 1995)	✓	✓	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓	✓
Me & My Feelings – behavioural problems subscale (from WMF) (Deighton et al., 2013)	✓	✓	✓	✓		✓		✓		✓	✓	✓	✓			✓
Reported and Intended Behaviour Scale (RIBS) (Evans-Lacko et al., 2011)					✓ Study 2			✓		✓		✓		✓		✓

Measure	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
Client Service Receipt of Inventory (CSRI) (Beecham & Knapp, 1999)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
General Help Seeking Questionnaire (GHSQ) (Wilson et al., 2005)			✓	✓ (Study 2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mental Health First Aid (MHFA) (Hart et al., 2016)			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Student Resilience Survey (SRS) - school connection subscale (Lereya et al., 2016)	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Child Health Utility 9D (CHU9D) (Stevens, 2009)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trait Emotional Intelligence Questionnaire - Adolescent Short Form (TEIQue-ASF) - self-regulation subscale (Petrides, 2009)	✓	✓	✓	✓									
Help-seeking Intention (Chisholm et al., 2016)	✓	✓		✓									

Measure									
KIDSCREEN 52 – peer victimisation subscale (Ravens-Sieberer et al., 2005)	✓	✓							
Attitudes toward Mental Illness (Milin et al., 2016)		✓	✓	✓	✓	✓	✓	✓	✓
Mental Health Knowledge Schedule (Evans-lacko et al., 2010)			✓ Study 2	✓	✓	✓	✓	✓	✓
Student Resilience Survey (SRS) - problem solving subscale (Lereya et al., 2016)	✓	✓							
The Guide Adapted Knowledge Questions (Kutcher et al., 2015)				✓	✓	✓	✓		

Note. P = Primary, S = Secondary, WMF = Wellbeing Measurement Framework. Only selected items on RIBS and MAKS were included in the full trial surveys, and the CSRI was also an adapted version.

2.1.3   My Contributions to the Education for Wellbeing Programme

Recruitment: I promoted the programme via social media and through local networks. Once schools' expression of interest forms were processed and they met the eligibility criteria, I was involved in sending key contacts the memorandum of understanding and data sharing agreement to be signed by a senior leader. As a member of the data management team, I checked the returned data sharing agreements and processed pupil lists. This stage also involved answering schools' queries relating to data protection and instructing schools to notify parents and conduct opt-out consent procedures.

Teacher Training Events: For all intervention training sessions, a member of the evaluation team was present. In the feasibility study, I wrote field notes and answered queries relating to the evaluation component. For the main trials, I delivered presentations outlining the evaluation in terms of RCT methodology and the survey timeline.

Quantitative Evaluation

Survey Development and Measure Selection: As a member of the implementation and process monitoring team, I helped to develop the school mental health provision and implementation surveys for each intervention. I was also involved in the selection of measures for school staff and student surveys.

Data Collection: I helped to create unique survey passwords and sent survey links to relevant school staff. In addition, I monitored schools' completion rates, sent survey reminders and supported schools to facilitate student survey sessions.

Data Management and Cleaning: I have been involved in a range of data management tasks including updating school contact details, delivery group information and drop-outs. Furthermore, I have been involved in the cleaning of school mental health provision data and led on the cleaning of implementation data. I also produced clear data handling procedures for analysts.

Qualitative Evaluation

Interview and Focus Group Schedule Development: I worked as part of a team to develop interview and focus group schedules for both the feasibility study, main trials and sustainability strand of the EfW Programme.

School Liaison for Case Study Visits: At teacher training events, I recruited case study schools for the qualitative strand of the evaluation. In addition, I liaised with schools to organise visits and conduct parental and student consent procedures.

Conducting Case Study Visits: For both the feasibility study and the main trials, I travelled to schools across England to observe intervention sessions being implemented and write field notes. The case study visits also involved face-to-face interviews and focus groups with a range of school staff and students involved in the EfW Programme.

Phone Interviews: I conducted phone interviews with staff from schools that dropped out of the programme to understand their opinions on the interventions and reasons for not implementing.

Qualitative Analysis: I have been involved in all stages of the qualitative analyses, from transcribing and transcript checking, to initial coding and developing themes with the Qualitative Lead on the programme (Dr Emily Stapley).

Co-authoring Reports and Papers: I was involved in the writing and proofing of the AWARE and INSPIRE protocols. Current collaborations include a number of qualitative papers exploring the experiences of the children and young people who received the interventions, and the school staff who implemented them, and papers relating to implementation and school mental health provision. In addition, I am part of a team conducting two systematic literature reviews exploring the long term effects of universal, school-based interventions to reduce emotional difficulties and improve help-seeking.

2.2 Research Paradigms and Pragmatism: My Thesis in the Context of the Education for Wellbeing Programme

Having developed this journal format thesis using data collected as part of the EfW Programme, it is important to acknowledge the way in which the research paradigms of the programme have influenced what I have chosen to focus on in this thesis and the methods used in each study. It is also important to acknowledge what research goals were important to me, my ontological and epistemological beliefs about the nature of reality and knowledge acquisition, and the shared beliefs and practices within the field (Morgan, 2007). Despite using RCT methodology, the EfW Programme recognised the challenges of conducting efficacy trials in complex, real life settings such as schools. Given that the work is inherently related to influencing practice, a pragmatic approach was taken to ensure that the most complete picture could be gained about the feasibility and effectiveness of interventions. For example, the programme uses mixed methods to understand programme differentiation, perceived social validity, and implementation of interventions, and cost effectiveness, to provide context for the overall quantitative findings relating to child and adolescent outcomes (Cheng & Metcalfe, 2018).

Pragmatism moves away from the divisive belief that quantitative and qualitative research paradigms and methodologies cannot be mixed, also known as the 'incompatibility thesis' (Onwuegbuzie & Leech, 2005). Instead, it aims to take the strengths from both approaches to best answer the research question. Pragmatism therefore avoids research methods driven by a particular ontology or epistemology, but instead focuses on practical knowledge production through inquiry to solve social problems (Morgan, 2014). The process of inquiry involves decisions about what aims and goals of research are most meaningful, and what methods are most appropriate to answer the research question. These decisions are viewed as inherently social, emotional and contextual and are 'value-laden', not value-free (Denzin, 2010). For example, the EfW Programme exists within a policy context in

England that is increasing the responsibility of schools to support young people's mental health (Department of Health and Education, 2017). This has been criticised by some as increasing the pressure on schools without providing the necessary resources (Education and Health and Social Care Committees, 2018). I agree with this criticism, and I am more broadly critical of the underfunding of schools and child and adolescent mental health services for the past decade (Department of Health, 2015). Context is therefore a theme throughout my thesis, exploring the cultural transferability of MHL concepts, measures and interventions for the English context.

This thesis presents a range of methods to fill gaps identified in the literature in order to provide a comprehensive picture of theory, method, and practice relating to school-based MHL interventions and their evaluation. The research is therefore pragmatic in methodology and not driven by a particular ontological or epistemological perspective. That is not to say that these perspectives are not considered throughout the thesis. As a critical contribution, studies question positivist approaches to measurement and the extent to which MHL is socially constructed across cultures. I am therefore not ontologically or epistemologically neutral but critical, aligning more with a critical realist philosophy. This is presented in more detail below in relation to Study Four.

Deciding on the goals of my thesis, and the most appropriate methods to address specific research questions, fits with a pragmatic process of inquiry outlined above. Based on my interest in informing appropriate and feasible approaches for compulsory mental health education in England, I decided to focus on MHL interventions because The Guide, one of the five interventions being trialled as part of the EfW Programme, looked most like a teacher-led mental health curriculum. I therefore set out to identify gaps and inconsistencies in the literature to identify the most meaningful contributions that I could make within the confines of the data collected as part of the EfW Programme. As a critical piece of work, the thesis set out to appraise existing conceptualisation and measurement of

MHL in adolescent research, explore school-level predictors of educators' MHL and capacity for supporting students' mental health in England, and explore the cultural transferability of an imported, school-based MHL intervention. The most appropriate research methods were selected based on the general consensus of the research community on best practices (Morgan, 2007), while considering the limitations of conducting secondary analysis of data collected as part of the EfW Programme. The rationale and method for each individual study presented in this thesis are presented below in turn.

2.3   Overview of Studies

Figure 2.1 provides an overview of studies presented in this thesis, including the theoretical, methodological and practical contributions and the way in which studies relate.

Studies One and Two relate to the target population of school-based MHL interventions i.e. adolescents, and Studies Three and Four relate to the school staff responsible for the implementation of interventions and the school context more generally. Study One introduces the theoretical question of how MHL is currently conceptualised in adolescent research and explores the homogeneity in measurement. This study therefore informs, to an extent, Study Two that focuses on measurement, and explores the psychometric properties and age appropriateness of a MHL-related measure of stigma-related behaviours and intentions for use with adolescents. Study Three is also interested in the measurement of MHL, but with a focus on educators. This study also explores school-level characteristics and provision that predict educators' perceived MHL and capacity to support students' mental health. Given that school staff are increasingly the individuals delivering MHL interventions, and that one mechanism for improved student outcomes is the level of educator MHL, this paper also relates to successful implementation of school-based MHL interventions and therefore has practical implications. Finally, Study Four explores the cultural adaptation of a Canadian, school-based MHL intervention for the English school context, and therefore also relates to practices for successful implementation. Studies

Three and Four are linked by the finding that school staffs' capacity and expertise led to

adaptations to both the content and implementation methods of a school-based MHL

intervention (The Guide).

Figure 2.1 *Overview of studies included in the thesis*
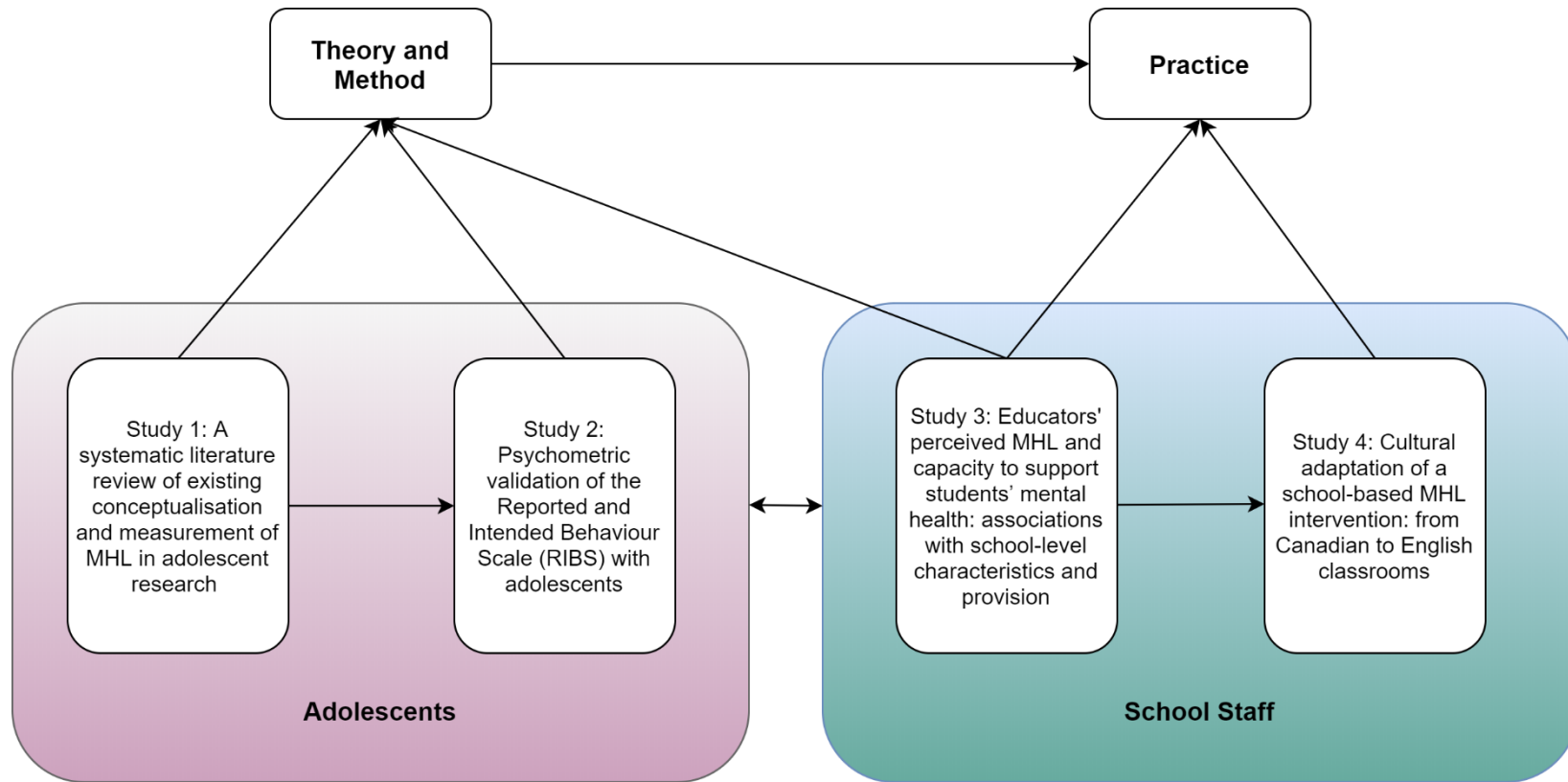
Study One: A systematic literature review of existing conceptualisation and measurement of mental health literacy in adolescent research: current challenges and inconsistencies

Study One is the version of the paper published in *BMC Public Health*, reformatted for consistency across the thesis. See the link below for the full open access publication.

Mansfield, R., Patalay, P., & Humphrey, N. (2020). A systematic literature review of existing conceptualisation and measurement of mental health literacy in adolescent research: current challenges and inconsistencies. *BMC Public Health, 20.* https://doi.org/10.1186/s12889-020-08734-1

Author Contributions

I designed the systematic literature review and published the protocol on the International Prospective Register of Systematic Reviews (PROSPERO) in December 2017 (reference: CRD42017082021). In order to reflect the progress of the review, I updated the protocol periodically. I also developed the search strategy and conducted the initial database and grey literature searches, as well as conducting all stages of screening and data extraction. Neil Humphrey and Praveetha Patalay helped resolved any uncertainties throughout the screening and data extraction phases, and Neil Humphrey screened a sub-set of articles at the full text screening phase to determine inter-rater reliability. I wrote a full draft of the manuscript which I later refined with input from Neil Humphrey and Praveetha Patalay. All authors read and approved the submitted version and were involved in the revisions suggested through the peer review process.

Rationale

When I started working on the EfW Programme, one of the first questions I asked myself was "*but what does 'mental health literacy' actually mean*?". I knew that I might regret asking that question, but to me, the answer wasn't clear. With emerging new definitions

and criticisms of the field, I wondered how helpful the term was, how accurately it described the research that was being conducted within the field, and how realistic it was to have a globally accepted definition and standardised ways of measuring the construct. Despite a number of reviews on the measurement of MHL, they were limited to specific definitions of the term, and therefore did not reveal the different conceptualisations of the construct. Furthermore, there were no systematic literature reviews that critically appraised MHL research conducted with adolescents, and therefore no attempt had been made at synthesising, evaluating and meta-analysing adolescent MHL data collected across both intervention and population, survey-based studies. In order to inform the future conceptualisation and measurement of MHL in school-based research, I knew that I firstly needed to understand the existing conceptualisation and measurement of the construct, and explore the extent of methodological homogeneity in the field for meta-analysis.

If the ultimate aim of increasing adolescent MHL is to improve mental health, consistent measurement across studies would allow for time trend analyses to be conducted plotting improvements in adolescents' MHL against mental health outcomes. Similarly, understanding the conceptualisation and measurement of MHL can help to operationalise what is meant by a MHL intervention, and provide reliable and valid measures to test and then meta-analyse their effectiveness. Being able to compare the efficacy of interventions is necessary to produce evidence-based school and population-level initiatives. This review was also conducted to help inform the measurement framework for the EfW Programme, and the focus of the second study in my thesis exploring in more detail, the psychometric quality and age appropriateness of a MHL-related measure for use with adolescents.

Aims and Research Questions

The aim of the current study was therefore to examine the existing conceptualisation and measurement of MHL in adolescent research to date, and explore the extent of

methodological homogeneity in the field for meta-analyses. The review set out to answer the following research questions:

1) What are the most common study designs, contexts, and aims?

2) How is MHL conceptualised?

3) What are the most commonly measured domains of MHL, and do these vary by study design and definition usage?

4) To what extent do articles use measures that have evidence of validity for use with adolescent samples?

5) Is there enough methodological homogeneity in the field to conduct meta-analyses?

Justification for Method

Although systematic literature reviews are commonly used to collate and synthesise evidence on the effectiveness of health-based interventions (Centre for Reviews and Dissemination, 2009; Higgins et al., 2019), they are also a systematic way to explore research methodologies and possible inconsistencies that can produce replication crises (Siddaway, Wood, & Hedges, 2019). Baumeister (2013) said:

> "*For people who are interested in grand ideas and broad questions, literature reviews constitute an excellent and exciting means of addressing them.*" (p. 120)

With the broad aim of understanding existing conceptualisation and measurement of MHL in adolescent research, a systematic literature review was therefore seen to be the most appropriate methodology. By conducting a systematic and comprehensive search of the literature, and following replicable methods for conducting and reporting, a systematic literature review can provide its own evidence and inform the future of a field (Siddaway et al., 2019). Furthermore, the best literature reviews are thought to be those that link

theory to evidence and evidence to theory (Baumeister, 2013). Study One does both by assessing the definitions of MHL adopted in adolescent research, developing a coding framework based on a prior theory to assess the most common MHL domains measured, and providing suggestions for future conceptualisation and measurement.

In line with good practices, I published a protocol on PROSPERO in December 2017 (reference: CRD42017082021), and relevant Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines were followed (e.g. PRISMA flowchart of excluded studies) (Moher et al., 2015). The protocol was periodically updated on PROSPERO to reflect the progress of the review. For example, given the level of heterogeneity in methodology across studies, the protocol was updated to reflect that the original plan to meta-analyse homogeneous studies was not possible. Similarly, original plans to conduct a full risk of bias assessment were no longer feasibility or appropriate given the breadth of studies included in the review.

In order to summarise the conceptualisation of MHL across articles, content analysis was adopted as a way of coding and categorising the primary aims of studies, definitions provided, and the different uses of the term MHL (Stemler, 2000). This allowed for quantitative summaries of the number of articles that fell into particular categories. Similarly, a coding framework, presented in full detail in Chapter Three, enabled summary statistics to be produced for the frequency and percentage of articles measuring different MHL domains. In addition to assessing the methodological homogeneity of measurement tools across articles, measures were reviewed in terms of the available evidence of their validity for use with adolescents. A summary of the measurement tools with the most comprehensive psychometric assessments (i.e. a published article with the primary aim of validating the measure for use with adolescent samples), was included using a combination of narrative synthesis and the proportion of articles that used a given measure.

Study Two: Psychometric validation of the Reported and Intended Behaviour Scale (RIBS) with adolescents

Study Two is the version of the paper published in *Stigma and Health*, reformatted for consistency across the thesis. The link below will take you to the published version; however, this paper is not open access.

Mansfield, R., Humphrey, N., & Patalay, P. (2019). Psychometric validation of the Reported and Intended Behaviour Scale (RIBS) with adolescents. *Stigma and Health*. https://doi.org/10.1037/sah0000200

Author Contributions

As described in the EfW Contributions section, I was involved in the selection of this measure for inclusion in the EfW Programme measurement framework, and contributed to data collection procedures. This study was designed by me with input from both co-authors on psychometric quality criteria and analyses. All data cleaning and analyses were conducted by me with the supervision of Praveetha Patalay. I wrote a full draft of the manuscript which I later refined with input from Neil Humphrey and Praveetha Patalay. All authors read and approved the submitted version and were involved in the revisions suggested through the peer review process.

Rationale

The primary outcomes of the EfW Programme are help-seeking intentions and emotional difficulties; however, given that the aim of many school-based MHL interventions is to reduce stigma, we decided that this should be added as a secondary outcome. Adolescents are underrepresented in the stigma literature and there is a lack of reliable and valid measures of stigma for adolescents. Furthermore, stigma is a complex and multi-faceted construct, and reviews of the extant literature show that it is often only captured in terms of attitudes towards mental illness. Existing reviews, including the findings from my

systematic literature review of the conceptualisation and measurement of MHL in adolescent research, reveal that few studies assess reported as well as intended discriminatory behaviour towards individuals experiencing mental health difficulties. It is important to assess both, as hypothetical behaviours are not always found to translate into actual behaviour change.

RIBS was developed in the UK to assess both reported and intended discriminatory behaviours, and has been validated with adult samples both in the UK and abroad. This was identified in my review as a scale starting to be adopted by adolescent MHL research; however, an assessment of its psychometric quality for use with this population did not exist. RIBS was therefore included in the EfW feasibility study's measurement framework and I decided to conduct a comprehensive assessment of its psychometric properties to inform its future use with adolescent samples. Identifying reliable and valid measures of reported and intended discriminatory behaviours for use with adolescents is important due to consistently reported experiences of discrimination by individuals who have previously received psychiatric diagnoses. Better methods of measuring discriminatory behaviours in adolescent populations, in addition to knowledge and attitudes, can help develop an understanding of the processes by which discrimination can be reduced. The findings of Study Two can therefore inform the future use of RIBS to monitor discriminatory behaviours in adolescent populations, and evaluate school-based mental health education aiming to reduce both negative attitudes and behaviours.

Aims and Research Questions

Study Two aimed to evaluate the psychometric quality of the RIBS for use with adolescents. Specifically, the internal consistency, floor and ceiling effects, construct and convergent validity, content validity, and interpretability of RIBS, including an assessment of the scale's readability, in order to answer the following research question:

1) To what extent is the RIBS a reliable and valid measure for use with an adolescent sample?

Justification for Method

As is true of the EfW Programme, most MHL interventions are developed for adolescents and implemented in secondary schools. The current study therefore focused on the data collected from secondary school students involved in the EfW feasibility study. Unfortunately, a number of MHL related measures, including the RIBS, were only included in the student survey at follow up in the EfW feasibility study (see Table 2.1). A secondary analysis of this data was therefore conducted.

In order to conduct a comprehensive assessment of psychometric properties, Terwee et al.'s (2007) quality criteria were applied where possible. Specifically, an assessment of the internal consistency, floor and ceiling effects, construct and convergent validity, content validity, and interpretability of RIBS was conducted. Full details of the methods to assess each of these criteria are included in Chapter Four. Methods include the use of multiple indicator multiple cause (MIMIC) models to assess differential item functioning (DIF) and multi-group confirmatory factor analysis (CFA) to explore age group and gender measurement invariance. Furthermore, an assessment of the readability of RIBS was conducted using four well established indices: the Dale-Chall Readability Formula (DC) (Chall & Dale, 1995; Dale & Chall, 1948), the Flesch-Kincaid Reading Grade (FK) (Kincaid, Fishburne, Rogers, & Chissom, 1975), the Gunning Fog Index (GFI) (Gunning, 1952), and the Coleman Liau Index (CLI) (Coleman & Liau, 1975).

With previous findings showing gender differences in reported stigma, and mixed results in relation to age as a predictor of stigmatising attitudes and intentions, it felt important to understand the possibility of different interpretations of RIBS across groups to ensure future mean comparisons are valid. An exploration of DIF and measurement invariance was therefore conducted, not only to better understand the function of RIBS across ages

and gender, but to make a methodological contribution, presenting an example of the assessment of the uniformity of psychometric properties across groups to inform mean comparisons (Steinmetz, 2013; Teresi & Fleishman, 2007). MIMIC models allowed for both gender and age group to be added as covariates of the latent factor(s), and direct and indirect effects could be identified using modification indices (MI). However, MIMIC models only identify differences in thresholds and factor means. Multi-group CFA was therefore also applied to the data to explore group measurement invariance using factor loadings and residual variances.

Another possible issue of using measures originally developed for adults with adolescent samples is that the content may not be easily read or accessible. It is advisable that even adult measures should not exceed a reading age of 12 (Terwee et al., 2007). The readability of RIBS was therefore perceived to be an important additional measure of the scale's interpretability in terms of both content validity and participant burden, particularly given the known variation in reading ability in any given classroom. Despite some criticism of the reliability of readability assessments when applied to short extracts of text like items (Oakland & Lane, 2004), averaging across four indices to reduce biases of any given formula, as well as interpreting the results in combination with other psychometric properties, provided additional information on the age appropriateness of RIBS.

Study Three: Educators' perceived mental health literacy and capacity to support students' mental health: associations with school-level characteristics and provision

Study Three is the version of the paper submitted for publication, reformatted for consistency across the thesis. This paper is currently under review.

Mansfield, R., Humphrey, N., & Patalay, P. (under review). Educators' perceived mental health literacy and capacity to support students' mental health: associations with school-level characteristics and provision.

Author Contributions

As described in the EfW Contributions section, I was involved in the development of the school mental health provision survey and the selection of the educator MHL and capacity measure. I also contributed to data collection procedures for both surveys. This study was designed by me with input from both co-authors on the multi-level design and analysis. All data cleaning and analyses were conducted by me with the supervision of Praveetha Patalay. I wrote a full draft of the manuscript which I later refined with input from Neil Humphrey and Praveetha Patalay. All authors read and approved the version submitted for publication.

Rationale

The EfW Programme aims to provide evidence on 'what works' for universal, school-based mental health interventions. This is within the context of greater responsibility for schools to support young people's mental health and the introduction of compulsory mental health education in England. Globally, there is an increasing number of teacher-led MHL interventions, many of which rely on the MHL of school staff for quality implementation. Despite a number of studies reporting that the majority of teachers' are able to recognise the symptoms of mental disorders, many still report low confidence acting on their concerns about a student and have limited awareness of community services. Also, the ability to identify symptoms of mental disorders does not necessarily translate into confidence talking with students about their mental health and providing active support in the classroom. Studies that focus on recognition of mental disorders also align with a reactive approach, and do not necessarily provide evidence on the level of understanding and comfort with mental health content to deliver universal interventions.

Conceptual frameworks for school-based, preventive interventions recognise that school staffs' capacity is, in part, dependent on school-level characteristics. For example, having clear roles, support from senior and pastoral teams and the amount of training offered to

staff. Previously reported barriers to delivering mental health provision include a lack of guidance and support from external mental health professionals, funding and limited staff capacity. It was therefore perceived to be important to investigate the relationship between school-level characteristics including designated roles, mental health training offered to staff and perceived barriers to effective mental health provision, and the perceived MHL and capacity of school staff to support students' mental health. I could not identify a study that modelled both individual and school-level predictors of staffs' MHL and capacity, and the EfW data provided a unique opportunity to explore the multi-level factors that influenced perceived awareness, knowledge and comfort relating to supporting students' mental health.

In the search for a brief MHL measure created specifically for school staff, we came across the Mental Health Literacy and Capacity Survey for Educators (MHLCSE). This scale was developed as part of the School Mental Health ASSIST programme, a multi-level, multi-agency approach adopted in Ontario, Canada (Fortier et al., 2017), with the aim of enhancing school-based mental health provision. Fortier et al. (2017) opted for the term 'educators' and perceived responsibilities as tiered, from promoting mental health in the classroom and providing a stigma free environment, to identification and referral, and bridging the gap between in school support and external agencies. They acknowledged that although classroom teachers may not always be the member of staff to make a referral, awareness and knowledge of these processes can help support students in the classroom.

Given that low levels of teacher confidence had been identified in previous research, the MHLCSE was perceived to be an appropriate measure to capture the perceived gaps in preparedness to support students' mental health within the context of implementing a universal preventive intervention. The scale did not however have evidence of its psychometric properties, this was therefore a necessary first step for the current study. The Canadian MHL intervention (The Guide) being trialled as part of the EfW Programme was

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developed to be delivered by classroom teachers. However, like Fortier et al. (2017), we chose to use the term 'educators' in the current study to account for the fact that, although the majority of the sample were likely to be classroom teachers, due to the nature of the interventions, some may be in specialist roles.

Aims and Research Questions

This study aimed to 1) Examine the factor structure and internal consistency of the MHLCSE, and assess responses in relation to supporting students' mental health; 2) Describe schools' mental health provision in terms of designated roles, training offered, and perceived barriers; 3) Investigate variance in MHLCSE outcomes explained by schools; and, 4) Explore school-level predictors of educators' perceived MHL and capacity after controlling for individual-level characteristics. The primary research question was:

1) To what extent do school-level characteristics and provision predict educators' MHL and capacity to support students' mental health after controlling for individual-level characteristics?

Justification for Method

Study Three conducted secondary analyses on baseline data collected in wave one of the EfW AWARE and INSPIRE trials (2018). The design was therefore cross-sectional and multi-level (educators within schools). In order to assess school-level characteristics and existing mental health provision, such as designated roles, training offered and perceived barriers, data from the school mental health provision survey were utilised. A more detailed description of the mental health provision survey and variables included in the current study is presented in Chapter Five. The MHLCSE was completed by staff identified as responsible for the delivery of interventions, if allocated, between September and November 2018 prior to any intervention training. This data, along with educators' gender and number of years in practice were also utilised in the current study.

Despite Fortier et al. (2017) proposing a three-factor structure (awareness, knowledge and comfort) for the MHLCSE, no prior psychometric assessment had been conducted, therefore an exploratory factor analysis (EFA) with one to four factors was conducted to apply the best structure based on the data. Due to the secondary nature of the analysis, a post-hoc power calculation was conducted, accounting for the multi-level design, to identify the detectable effect size. The full power calculation can be found in Chapter Five. Merging data across school and educator-level surveys led to a relatively large proportion of missing data (>5%). Patterns of missing data were assessed and multiple imputation using chained equations was conducted prior to analysis to reduce the likelihood of biased estimates caused by missingness. Multiple imputation computes multiple predictions of missing values reducing imputation uncertainty and producing more accurate standard errors (Azur, Stuart, Frangakis, & Leaf, 2012). Post-imputation multi-level models were conducted as well as complete case sensitivity analysis.

Multi-level modelling was selected as the most appropriate analysis for the current study. Unlike, single-level regression models that assume independent observations, multi-level models account for clustering, making it a point of interest in the study (Twisk, 2006). Originally developed for educational research, multi-level models account for the likely correlation between individual-level outcomes nested within a given class or school (Hox, 2010). They also allow the inclusion of individual and school-level predictors, and calculate the amount of variance in the outcome variable explained by these factors whilst controlling for clustering. Even though the outcomes in Study Three were at the educator level (MHLCSE sub-scales), controlling for clustering was important as educators from the same school worked within the same context in terms of their school's existing mental provision (i.e. designated mental health roles, training offered and barriers to providing effective mental health support). Ignoring clustering can produce unrealistic standard

errors and confidence intervals, resulting in type one error, interpreting random variation as a real effect (Buxton, 2008).

The amount of variance unexplained by predictors in the model is shown by the Intraclass Correlation Coefficient (ICC). As a measure of between-group variability, the ICC reveals the amount of variance between schools as opposed to variance between educators within a school. A larger ICC indicates greater between-group variability and less variance between individuals within a group (Twisk, 2006). Empty, individual-level and full models were compared using the -2*log likelihood statistic, where a lower value indicates better model fit, and a large value indicates that the observed outcomes deviate greatly from the expected outcomes. Given that models were run post imputation, and that Stata does not produce either an ICC value or -2*log likelihood statistic across multiple imputed data sets, these statistics were computed for each of the 20 imputed data sets and then averaged (Schomaker & Heumann, 2014). Coefficients at each level were also compared across models, and the proportion of variance in the MHLCSE outcomes explained by adding predictor variables was calculated. Beta (β) coefficients indicate the amount of variance in the MHLCSE outcome explained by each predictor variable, where for continuous predictors β represents the change in the outcome variable for every one unit change in the predictor. For dummy variables, in which the reference group = 1, β represents the change in the outcome variable after being exposed to the reference group e.g. if female.

Study Four: Cultural adaption of a school-based, mental health literacy intervention: from Canadian to English classrooms

Study Four is the version of the paper submitted for publication, reformatted for consistency across the thesis. This paper is currently under review.

Mansfield, R., Humphrey, N., Patalay, P., Moore, A., & Stapley, E. (under review).

        Cultural adaptation of a school-based mental health literacy intervention: from

        Canadian to English classrooms.

Author Contributions

As described in the EfW Contributions section, I was involved in the collection and transcription of qualitative data used in the current study. Although one of the aims of the feasibility study was to adapt the nature of scheduling of the interventions for the English school context, I conceived the original idea to write a paper for publication that presents the adaptations made to The Guide by school staff involved in the feasibility study. I conducted all analyses with supervision from the EfW qualitative lead (Dr Emily Stapley). Anna Moore, a fellow PhD student, was also involved in collecting data and checking transcripts and was therefore well placed to review themes and selected data extracts. I wrote a first draft of the manuscript which was later refined based on comments from all co-authors. All authors read and approved the version due to be submitted for publication.

Rationale

Although there is increasing evidence for the efficacy of school-based MHL interventions such as The Guide, very few evaluations have conducted implementation and process evaluations and, to our knowledge, there are currently no published articles that qualitatively investigate the cultural adaptation of a school-based MHL intervention. Given that we know that The Guide is increasingly trialled outside of Canada, I felt that it was important to set an example by writing a paper that reports on the adaptations made and suggested by school staff in England. When transporting a MHL intervention across countries, it is vital that the adaptations made, when, why, and, by whom, are documented and analysed in order to develop culturally flexible and feasible school-based mental health curricula. The results from the current study also relate more broadly to the English policy context, with the introduction of compulsory mental health education, and provide insights about 'what works' for English schools under the current circumstances.

I was also interested in the reasons for adaptations made and suggested by school staff to the intervention content, as I wondered to what extent The Guide would be perceived as

culturally appropriate, particularly given its predominantly biomedical approach. The data analysed in the current study were used to inform some of the adaptations made to The Guide for the main trial. However, there are no existing publications that utilise this data, and the hybrid thematic analysis applied in the current study provides a unique contribution by investigating to what extent existing theory relating to cultural adaptation is relevant to the implementation of an imported MHL intervention. In addition, the study uses the few examples of studies focused on teachers' reasons for cultural adaptations made to substance misuse and social and emotional learning (SEL) programmes, providing a chance to compare common reasons for adaptations and those unique to The Guide.

Study Four also relates to the systematic literature review of the conceptualisation and measurement of MHL in adolescent research (Study One), in that the results identify possible cultural mismatches between Canada and England in terms of the dominant discourse around mental health, and therefore the way that MHL and related interventions are conceptualised. Furthermore, the study provides an in depth analysis of the experiences of school staff responsible for the adaptation and/or implementation of The Guide, and therefore provides an extension of the findings in Study Three relating to school staffs' subject knowledge and capacity for implementing universal, mental health education.

Aims and Research Questions

The aim of Study Four was to explore the cultural adaptation of a Canadian MHL curriculum (The Guide) for delivery in classrooms in England, by investigating the reasons for adaptations made by school staff involved in the feasibility study. The research question was:

1) When trialling the feasibility of a Canadian MHL curriculum (The Guide) in England, what adaptations were made within the school context, when, why and, by whom and what adaptations were suggested for the future?

Method

Qualitative research is about exploring people's perceptions and experiences in rich detail to understand the nature of a phenomena in all its breadth and complexity (Lewis, Ritchie, Ormston, & Morrell, 2014). As an extension of findings in Study Three, relating to educators' MHL and capacity for supporting students' mental health, Study Four aimed to provide an in depth qualitative analysis of the experiences of staff across three schools allocated to implement The Guide as part of the EfW feasibility study. Participating case study schools included two self-selected schools that implemented The Guide and one school that, following the training, decided not to implement. All schools were located in the South East of England, and school staff interviewed were in a range of different roles within the school and in relation to the implementation of The Guide. Interview transcripts from school staff responsible for the planning and/or implementation of The Guide (N = 11) were analysed, as well as observation notes (N = 2).

Study Four offered an opportunity to present a very detailed analysis of three schools' that adopted different approaches to implementing The Guide. The current study was therefore conducted not with the aim of producing statistical-probabilistic generalisability, but instead to explore the analytical generalisability i.e. conceptual or theoretical generalisations, relating to the cultural adaptation of a school-based intervention (Smith, 2018), and insights specific to The Guide and MHL interventions. More generally, findings from the current study were thought to be relevant to the introduction of compulsory mental health education in English schools. Furthermore, the in depth accounts of the schools' approaches lend themselves to naturalistic and transferable generalisability, in which readers will apply the experiences and practices most relevant to their own school context (Smith, 2018).

A hybrid thematic analysis was conducted at a semantic level using both deductive and inductive coding techniques. Braun and Clarke's (2006) six step approach was followed

including: data familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Conducting a thematic analysis at a semantic level means to analyse the explicit or surface level meaning of the data i.e. what has been said by school staff. With this approach, themes represent patterns in semantic content, but there is also a process of interpreting the relationships between themes and the broader significance and implications of these patterns (Braun & Clarke, 2006).

Codes were generated in two stages. Firstly, because the current study aimed to answer a specific research question, deductive codes were created that covered the different points of interest. For example, 'what' adaptations were made and suggested, 'when', 'why' and 'by whom'? Furthermore, a prior theory relating to cultural adaptation of school-based interventions informed the development of additional deductive codes. This offered the opportunity to explore the theoretical generalisability of findings compared with existing literature. Secondly, an inductive approach was also adopted to identify codes specific to The Guide and the English school context and the unique experiences of school staff. By using a hybrid approach, it was possible to explore the common reasons for making and suggesting cultural adaptations to school-based interventions, and those that were specific to the content and implementation methods of The Guide. When organising, reviewing and naming themes, a more inductive approach was taken, ensuring that themes accurately represented the data. The final names of the themes therefore do not match the a prior themes used to conduct the deductive coding. However, the results are compared to these existing theories and models of cultural adaption in the discussion.

Analysis was conducted with a critical realist approach. This approach falls under a post-positivist philosophy and moves beyond the conflict between positivism and constructivism. Critical realism applies both paradigms to investigate the causation or reasons for social events which can, in turn, be used to suggest practical recommendations

to resolve social problems (Fletcher, 2017). Like positivism, critical realism posits that reality exists independently to those that observe it (Ormston, Spencer, Barnard, & Snape, 2014). However, this reality is imperfectly apprehendable. Critical realism therefore presents reality as existing at three levels. At an empirical level, events are as they are experienced; they can be measured empirically but through the lens of human perception (Fletcher, 2017). Next, is the actual events that occur regardless of whether they are experienced or interpreted, and finally, at the real level, causal mechanisms exist that explain social events experienced at the empirical level.

Given that the study was interested in understanding and presenting the complexities of real-world implementation of an imported MHL curriculum, the position was taken that reality can only be known approximately through the perceptions and experiences of school staff, and that these accounts will likely be multi-faceted. The observations helped to explore differences between the experienced and the real events that took place in relation to the implementation of The Guide. Overall, the study provided an in depth account of reality and different windows into the adaptation and implementation of The Guide across a small number schools. The overall aim was to understand the reasons for adaptations made and suggested, or the 'causal mechanisms' for different schools' approaches, which could, in turn, inform future practices for developing and implementing school-based MHL interventions in England (Fletcher, 2017).

2.4   Chapter Summary

This chapter provided an overview of the EfW Programme, and outlined my contributions to both the feasibility study and the AWARE and INSPIRE trials. The four original studies that make up this thesis were positioned within the wider programme, and were described in terms of their rationale, aims, research questions and justification for methodology.

These studies are presented in the following order:

Chapter Three: A systematic literature review of existing conceptualisation and measurement of mental health literacy in adolescent research: current challenges and inconsistencies

Chapter Four: Psychometric validation of the Reported and Intended Behaviour Scale (RIBS) with adolescents

Chapter Five: Educators' perceived mental health literacy and capacity to support students' mental health: associations with school-level characteristics and provision

Chapter Six: Cultural adaptation of a school-based mental health literacy intervention: from Canadian to English classrooms

The findings presented in each chapter are then brought together and discussed in Chapter Seven (Discussion).

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3 CHAPTER THREE: A SYSTEMATIC LITERATURE REVIW OF EXISTING CONCEPTUALISATION AND MEASUREMENT OF MENTAL HEALTH LITERACY IN ADOLESCENT RESEARCH: CURRENT CHALLENGES AND INCONSISTENCIES (STUDY ONE)

Mansfield, R., Patalay, P., & Humphrey, N. (2020). A systematic literature review of existing conceptualisation and measurement of mental health literacy in adolescent research: current challenges and inconsistencies. *BMC Public Health, 20*. https://doi.org/10.1186/s12889-020-08734-1

This chapter presents the open access published version of Study One, reformatted for consistency across the thesis. Appendix One contains all supplementary materials for this paper except from an excel file including a summary of all articles identified and coded in the review. This can be accessed via the link above to the open access text. The link is included again in Appendix One with all other supplementary materials. Although this review was the first study that I conducted as part of my PhD, Study Two was published first and is cited in this review.

3.1 Abstract

With an increased political interest in school-based mental health education, the dominant understanding and measurement of mental health literacy (MHL) in adolescent research should be critically appraised. This systematic literature review aimed to investigate the conceptualisation and measurement of MHL in adolescent research and the extent of methodological homogeneity in the field for meta-analyses. Databases (PsycINFO, EMBASE, MEDLINE, ASSIA and ERIC) and grey literature were searched (1997–2017). Included articles used the term 'mental health literacy' and presented self-report data for at least one MHL domain with an adolescent sample (10–19 years). Definitions, methodological and contextual data were extracted and synthesised. Ninety-one articles were identified. There was evidence of conceptual confusion, methodological inconsistency and a lack of measures developed and psychometrically tested with adolescents. The most commonly assessed domains were mental illness stigma and help-seeking beliefs; however, frequency of assessment varied by definition usage and study design. Recognition and knowledge of mental illnesses were assessed more frequently than help-seeking knowledge. A mental-ill health approach continues to dominate the field, with few articles assessing knowledge of mental health promotion. MHL research with adolescent samples is increasing. Results suggest that a better understanding of what MHL means for this population is needed in order to develop reliable, valid and feasible adolescent measures, and explore mechanisms for change in improving adolescent mental health. We recommend a move away from 'mental disorder literacy' and towards critical 'mental health literacy'. Future MHL research should apply integrated, culturally sensitive models of health literacy that account for life stage and acknowledge the interaction between individuals' ability and social and contextual demands.

3.2 Introduction

Around 50% of mental health difficulties have their first onset by age 15 (Kessler et al., 2005; Kim-Cohen et al., 2003) and are associated with negative outcomes such as lower educational attainment and physical health problems (Patel, Flisher, Hetrick, & McGorry, 2007). Approximately 10–20% of young people are affected worldwide, and many more will experience impairing mental distress at varying degrees across the mental health continuum (Belfer, 2008; Costello, Egger, & Angold, 2005; Kieling et al., 2011; Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015; Sadler et al., 2018). Adolescence is a critical period of transition, characterised by physical, cognitive, emotional, social and behavioural development (Hagell, Coleman, & Brooks, 2013). It has therefore been identified as a particularly important developmental phase for improving MHL and promoting access to mental health services (Neufeld, Dunn, Jones, Croudace, & Goodyer, 2017; O'Connell, Boat, & Warner, 2009). However, better understanding of the conceptualisation and measurement of MHL in this population is needed.

MHL was first defined as "*knowledge and beliefs about mental disorders which aid their recognition, management or prevention*" (Jorm et al., 1997, p. 182) and consisted of six domains: "*1) the ability to recognise specific disorders or different types of psychological distress; 2) knowledge and beliefs about risk factors and causes; 3) knowledge and beliefs about self-help interventions; 4) knowledge and beliefs about professional help available; 5) attitudes which facilitate recognition and appropriate help-seeking; and 6) knowledge of how to seek mental health information*" (Jorm, 2000, p. 396). Domains were later revised to include early recognition, prevention and mental health first aid skills (Jorm, 2012). The most recent definition comprises four broad domains aligned with current definitions of health literacy: "*1) understanding how to obtain and maintain positive mental health; 2) understanding mental disorders and their treatments; 3) decreasing stigma related to mental disorders; and 4) enhancing help-seeking efficacy (knowing when*

and where to seek help and developing competencies designed to improve one's mental health care and self-management capabilities" (Kutcher, Wei, & Coniglio, 2016, p. 155).

In a review of MHL measurement tools, O'Connor, Casey and Clough (2014) revealed that the most commonly assessed domain was recognition of mental disorders. No studies assessed either knowledge of how to seek information or knowledge of self-help interventions. The focus on recognition of mental disorders, along with knowledge about risk factors, causes and appropriate treatments, has been criticised for promoting the psychiatric and biogenetic conceptualisation of mental illness (Gattuso, Fullagar, & Young, 2005; Read, 2007). Despite being found to reduce blame, biogenetic explanations and attributions can lead to misconceptions about dangerousness and unpredictability and pessimism about recovery (Kvaale, Haslam, & Gottdiener, 2013). Early research also suggested that biogenetic causal theories increase a desire for social distance (Angermeyer & Matschinger, 2005; Read, Haslam, Sayce, & Davies, 2006). MHL modelled on recognition of psychiatric labels, and diagnostic language such as 'disorder', often leads to psychosocial predictors being ignored, and more negative attitudes towards individuals experiencing mental distress (Kinderman, Read, Moncrieff, & Bentall, 2013; Schomerus et al., 2012).

These criticisms, in line with broader socio-cultural approaches to literacy (Gee, 1992) understand MHL as a socio-political practice used to communicate, and make dominant, the psychiatric discourse. This appears to undermine attempts to reduce stigma, the most common outcome of school-based MHL interventions (Wei, Hayden, Kutcher, Zygmunt, & McGrath, 2013). In their review of MHL measurement tools, O'Connor et al. (2014) excluded all disorder specific scales, claiming that "*MHL by definition should encompass knowledge and attitudes relating to a range of mental health disorders and concepts.*" (p. 199). Chambers, Murphy and Keeley (2015) further criticised current MHL definitions for being narrow in focus with a predominantly mental-ill health approach, ignoring the

complete mental health state that goes beyond the dichotomy of illness and wellness (Keyes, 2005). The difference between literacy about mental disorders and the ability to seek out, comprehend, appraise and apply information relating to the complete mental health state is an emerging point of discussion, and has seen MHL re-defined to include self-acquired knowledge and skills relating to positive psychology (Bjørnsen, Eilertsen, Ringdal, Espnes, & Moksnes, 2017; Kusan, 2013). This aligns with the World Health Organisation's (WHO) definition of mental health, which includes subjective wellbeing, optimal functioning and coping, and recognises mental health beyond the absence of disorder (WHO, 2018).

In response to increasingly inclusive definitions of MHL, Spiker and Hammer (2018) presented the argument for MHL as a "*multi-construct theory, rather than a multidimensional construct*" (p. 3). The proposal suggested that by stretching the MHL construct, researchers have reduced the consistent use of the definition across studies, resulting in heterogeneous measurement (Wacker, 2004). Reviews of the psychometric properties of MHL measurement tools support this argument, and conclude that more consistent measurement with valid scales is needed (Wei, McGrath, Hayden, & Kutcher, 2015, 2016, 2017a; 2017b). Spiker and Hammer (2018) also outline problems with construct irrelevant variance, in which measures capture more than they intended to. Furthermore, they note that construct proliferation or the 'jingle jangle fallacy' (Marsh, 1994), in which scales may have different labels but measure the same construct, and vice versa, increase problems with discriminant validity. Understanding MHL as a multi-construct theory could help delineate between its broad domains: recognition, knowledge, stigma and help-seeking beliefs, and acknowledge their complexity.

Internationally, there is growing political interest in child and adolescent mental health promotion and education (Department of Health and Education, 2017; Kieling et al., 2011). Despite limited evidence, it is suggested that educating the public by improving their

ability to recognise mental disorders, and increasing help-seeking knowledge, can promote population mental health (Kelly, Jorm, & Wright, 2007; Wright, Jorm, Harris, & McGorry, 2007). Furthermore, a reduction in stigmatising attitudes is consistently reported to improve help-seeking (Clement et al., 2015; Gulliver, Griffiths, & Christensen, 2010). MHL, by definition, includes these interacting domains. However, despite a comprehensive set of reviews that assess the psychometric properties of MHL measurement tools (Wei et al., 2015, 2016, 2017a; 2017b), there is no systematic literature review, to date, that assesses the current conceptualisation and measurement of MHL across adolescent research. Being able to clearly operationalise what is meant by a MHL intervention, and meta-analyse their effectiveness, will have implications for the investment in school and population-level initiatives. Similarly, being able to conduct time trend analyses that plot possible improvements in adolescents' MHL against mental health outcomes, will reveal the extent to which population level improvements in MHL promote mental health. First though, we must have a clear picture of the understanding of MHL in adolescent research and how it is currently being measured.

Objectives and Research Questions

The aim of the current study was therefore to examine the ways in which MHL has been conceptualised and measured in adolescent research to date, and explore the extent of methodological homogeneity in the field for meta-analyses. We set out to answer the following research questions: 1) What are the most common study designs, contexts, and aims? 2) How is MHL conceptualised? 3) What are the most commonly measured domains of MHL, and do these vary by study design and definition usage? 4) To what extent do articles use measures that have evidence of validity for use with adolescent samples? 5) Is there enough methodological homogeneity in the field to conduct meta-analyses?

3.3 Method

A protocol was published on PROSPERO in December 2017 (reference: CRD42017082021), and was updated periodically to reflect the progress of the review. Relevant PRISMA guidelines for reporting were followed (Moher et al., 2015).

Eligibility Criteria

Articles were included with adolescent samples aged between 10 and 19 (WHO, 2014). Samples with a mean age outside of this range were excluded. If no mean was presented and the age range fell outside of the criterion, articles were only included if results were presented for sub-groups (e.g. 12–17 years from a sample aged 12–25). General MHL and diagnosis-specific literacy research was included. Articles with quantitative study designs and extractable self-report data for at least one time point measurement of any MHL domain were eligible. These criteria ensured that only articles with extractable data from adolescents, who had not yet received any form of intervention were included. At the full text screening phase, articles published before 1997, based on the date of the first MHL definition (Jorm et al., 1997), and those that did not explicitly use the term 'mental health literacy' or a diagnosis-specific equivalent (e.g. 'depression literacy') were excluded. By applying this criterion, the current study was able to present the number of articles that measured domains without referring to MHL. Identifying cases where researchers measure the same construct but use different labels is important when considering conceptualisation and meta-analyses.

Only articles available in English were included. Specific populations such as clinical/patient populations and juvenile offenders were excluded, as were university students. In contrast to schools in most countries, universities are not universal, with only a sub-set of young people entering higher education. University samples were therefore not seen as representative and often included participants outside the age criterion. Postpartum and later life neurocognitive disorders (e.g. Alzheimer's disease) were removed given their

limited relevance for this age group. In line with other MHL reviews (Wei et al., 2015), articles with a focus on substance abuse were excluded to avoid reviewing a large number of adolescent risk behaviour studies and substance abuse prevention programmes.

Search Strategy

The search strategy was developed to include a number of combinations of terms to ensure that literature relating to different domains of MHL were captured. Population terms such as 'adolescen*' or 'young people*' had to be present and mental health related terms (e.g. 'mental health' and 'mental disorders') were exploded to capture general MHL and diagnosis-specific studies. Similarly, outcome terms (e.g. 'health literacy' and 'health education') were exploded, and domain specific terms included (e.g. 'knowledge', 'recogni*', 'attitud*', 'stigma*', 'helpseek*', 'prevent*' or 'positive*'). See Appendix One for an example search strategy.

Data Sources

The following databases were searched from their start date to the search dates (November 2017): PsycINFO, EMBASE, MEDLINE, ASSIA, and ERIC. Key authors were also contacted to identify grey literature. References were harvested from related reviews and all papers identified in the search. Hand searches of key authors' publication lists were also conducted, and Google Scholar was used to find studies known by the authors but not identified in the database searches.

Article Selection

Results from the database searches were saved to Endnote and duplicates were removed. The lead author screened the article titles and abstracts to identify those that met the inclusion criteria. Full texts were then screened and reasons for exclusion were recorded. Any uncertainties were resolved through discussion with other members of the research

team. A sub-set of 20 articles were screened at full text stage by the third author, and a strong level of agreement was found (k = .78, p = .001).

Data Extraction

Research was assessed on an article level (rather than by study) for the purposes of investigating the conceptualisation of MHL. The fact that authors break MHL down into component parts to write separate articles is support for identifying which domains are more commonly associated with the use of the term. Data on the following methodological factors were extracted from eligible articles using a uniform data extraction form: year of publication, country and setting (community (research conducted outside of the school setting e.g. population level surveys) vs. school-based research), study design (intervention vs. population-based), primary aims, MHL definition and use of the term, general MHL vs. diagnosis-specific literacy, number/types of MHL domains measured, and measurement tools (e.g. vignette, yes/no, Likert scales).

Data Analysis

A content analysis was conducted using NVivo 12 to organise articles by their primary aim and understand the conceptualisation of MHL based on the definition presented and use of the term. Frequencies and percentages for each group were calculated and articles coded based on whether they included items related to general MHL or diagnosis-specific literacy. Existing definitions of MHL (Jorm et al., 1997; Bjørnsen et al., 2017; Jorm, 2012; Jorm, 2000; Kutcher et al., 2016) were used to create a coding framework that clearly delineated its broad constituent domains (e.g. recognition, knowledge, stigma and beliefs), the object of these domains (e.g. mental illnesses, mental health prevention and promotion, and help-seeking), and their directionality (e.g. self vs. other) – see Figure. 3.1.

Mental illness stigma was assessed using existing conceptualisation i.e. personal and perceived stigma relating to self (intra-personal) and others (inter-personal), and broad

domains (e.g. attitudes and beliefs, emotional reactions, and social distancing) (Corrigan, 2012). The coding of help-seeking beliefs was informed by the theory of planned behaviour (Ajzen, 1991), assessing not only help-seeking intentions but also help-seeking confidence and self-perceived help-seeking knowledge, perceived helpfulness of referrals, help-sources and treatments, help-seeking stigma and perceived help-seeking barriers. A distinction was also made between help-seeking beliefs for self (intrapersonal) vs. others (inter-personal). Although not explicitly included in any MHL definition, help-seeking behaviour was also assessed as the term is sometimes confused with help-seeking intentions. Domains were coded at an item level due to many articles presenting this form of data (e.g. % of sample that answered each item correctly as opposed to a scale mean). Frequencies and percentages were produced across all articles and by study design and definition usage.

Figure 3.1. *Mental health literacy coding framework*

Recognition		
The ability to recognise mental illnesses or different types of mental distress		

Knowledge about mental illnesses *Knowledge of causes and risk factors, symptoms, treatments and prognosis of mental illnesses.*	**Knowledge of prevention and promotion of mental health** *Knowledge of how to obtain, maintain and promote positive mental health including self-help interventions.*	**Knowledge about help-seeking** *Knowledge of how, when and where to seek mental health information and informal and professional help.*	
		Intra-personal	Inter-personal

Mental illness stigma *Attitudes and beliefs, emotional reactions, behavioural intentions and actual discriminatory behaviour relating to mental illness and individuals with lived experience.*				**Help-seeking beliefs** *Confidence and self-perceived help-seeking knowledge, perceived helpfulness of referrals, help-sources and treatments, help-seeking intentions, stigma towards help-seeking, perceived help-seeking barriers and actual help-seeking behaviours.*	
Intra-personal		Inter-personal		Intra-personal	Inter-personal
Personal	Perceived	Personal	Perceived		

Assessment of Measures

An assessment of all MHL-related measurement tools was conducted in order to assess methodological homogeneity across articles, and whether there was evidence that the measures were psychometrically valid for adolescent samples. In order to present instruments with the most comprehensive psychometric assessments, measures were coded based on whether an article existed with the primary aim of establishing its psychometric properties with an adolescent sample.

3.4   Results

Article Selection and Characteristics

In total, 206 articles were identified that presented extractable adolescent data on at least one MHL domain. Of these, 91 articles (44%) used the term 'mental health literacy'. Those that did not use the term (n = 115, 56%), were therefore not perceived to have intended to explicitly measure the construct and were not included beyond this point (see Figure. 3.2 for a PRISMA flowchart of articles, and Appendix One for the link to the full set of coded articles, and for the reference list of included articles).

Synthesised Findings

Design, Context and Aims

Figure 3.3 shows the number of publications by year and country. Australian research dominated the field up until 2013, at which point there was an increase in research being published globally. Australia (34%), United States (US) (15%), Canada (9%), Republic of Ireland (9%) and the United Kingdom (UK) (8%) have published the majority of research between 2003 and 2017.

Table 3.1 presents a summary of articles' study design, context and primary aim. The majority of articles reported on school-based studies. Articles with the primary aim of describing levels of MHL also included variables such as age, school year, gender, education, socio-economic variables, occupation, urbanicity, mental health status and previous mental health service use.

Figure 3.2 *PRISMA flowchart of included studies*


```
┌─────────────────────────────────────┐
│ Databases searched:                  │
│ PsycINFO, EMBASE, MEDLINE, ASSIA and │
│ ERIC                                 │
└─────────────────────────────────────┘
                 │
                 ▼
┌──────────────────────────────────┐      ┌──────────────────────┐
│ Potentially relevant publications │─────▶│ Duplicates removed    │
│ for screening                     │      │ N = 2,186             │
│ N = 10,157                        │      └──────────────────────┘
└──────────────────────────────────┘
                 │
                 ▼
┌──────────────────────────────────┐      ┌──────────────────────────────┐
│ Total publications for title and  │─────▶│ Excluded by screening the     │
│ abstract screening                │      │ title and abstract            │
│ N = 7,971                         │      │ N = 6,653                     │
└──────────────────────────────────┘      └──────────────────────────────┘
                 │
                 ▼
┌──────────────────────────────────┐      ┌──────────────────────────────┐
│ Total publications for full text  │─────▶│ Excluded by screening the     │
│ screening                         │      │ full text                     │
│ N = 1,318                         │      │ Duplicates N = 5              │
└──────────────────────────────────┘      │ No full text N = 117          │
                                           │ Pre-1997 N = 10               │
                                           │ Design N = 146                │
                                           │ Excluded populations N = 883  │
                                           │ Dissertation theses N = 16    │
                                           │ Total N = 1,177               │
                                           └──────────────────────────────┘
```

Grey literature searches

Total publications for full text screening N = 1,318

Total publications eligible for data extraction N = 141

Excluded by screening for the term 'mental health literacy' N = 68

Total eligible publications N = 65

Excluded by screening for the term 'mental health literacy' N = 47

Total publications for inclusion from database search N = 73

Total publications for inclusion N = 91

Total publications for inclusion from grey literature searches N = 18

146

Figure 3.3 *Publication count by year and country*
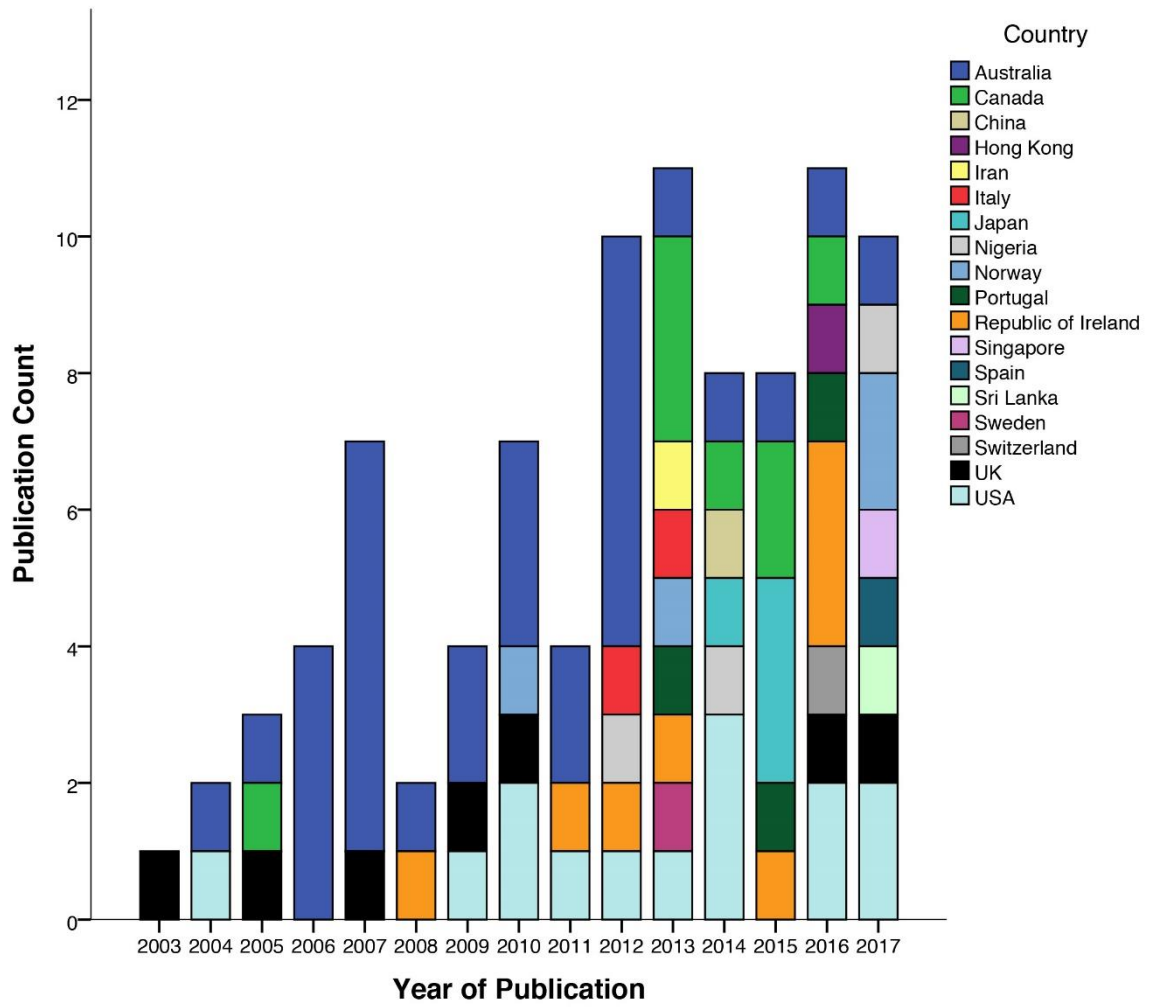
Table 3.1 *Frequency and percentage of articles' study design, context and primary aim*

	Study Design	
	Population Study	**Intervention Study**
	58 (64%)	**33 (36%)**
Study Context		
School-based	41 (71%)	31 (94%)
Primary Aim		
Scale development and/or validation	4 (7%)	-
Describe levels of MHL	39 (67%)	-
Explore possible predictors of mental illness stigma	4 (7%)	-
Explore possible predictors of help-seeking attitudes and intentions	6 (10%)	-
Explore relationship between MHL domains	5 (9%)	-
Intervention evaluation i.e. assessing the impact of an intervention	-	25 (76%)
Intervention baseline study i.e. describe level of MHL, explore predictors of specific domains or relationship between MHL domains	-	8 (24%)

Note: For population and intervention study design, % out of 91, for study context and primary aim, % out of number of population and intervention-based articles i.e. 58 and 33 respectively.

Conceptualisation

Of the 91 articles that used the term 'mental health literacy', only 41 (45%) defined it. The most common definition, presented by 29 out of 41 (71%) articles, was that coined by Jorm et al. (1997). A further 3 articles (7%) used a simplified or adapted version of this definition (Leighton, 2010; Ojio et al., 2015; Serra et al., 2013). Four articles (10%) defined MHL as related to knowledge only (e.g. "*knowledge of mental health problems as well as the sources of help available*"; Swords, Hennessy, & Heary, 2011, p. 485). The full list of MHL domains presented by Jorm (2000), was included in over a third (n = 14, 34%) of articles that defined the term. However, there was some variation. For example, very few of these articles (n = 2, 14%) referred to different types of psychological distress as well as mental disorders when presenting the recognition domain. Furthermore, in most cases (n = 11, 79%), 'knowledge and beliefs' was replaced with 'knowledge' only, for domains relating to causes and risk factors, self-help strategies and professional help available.

A small number of articles that defined MHL (n = 5, 12%) presented Jorm's additional domains relating to mental health first aid skills and advocacy (Jorm, 2012). Some articles (n = 4, 10%) provided examples of specific MHL domains, namely recognition of mental disorders and knowledge and beliefs about appropriate help-seeking and treatment, as opposed to presenting a comprehensive list. An emerging group of articles (n = 5, 12%) either acknowledged mental health promotion as a component of MHL or presented Kutcher et al's. (2016) four broad domains including "*understanding how to obtain and maintain good mental health*" (p. 155).

Regardless of whether a definition was provided, approximately one third of identified articles (n = 31, 34%) referred to MHL as a construct separate to mental illness stigma, with some suggesting that MHL predicts stigma. For example, articles described the

measurement of these constructs as separate (e.g. "*All respondents were then asked a series of questions that assessed sociodemographic characteristics, mental health literacy, stigma ...*"; Yap, Reavley, & Jorm, 2012, p. 941), and referred to or presented a relationship between the two constructs (e.g. "*Participants with higher MHL displayed more negative attitudes to mental illness*"; O'Keeffe et al., 2016, p. 100). There were also instances where articles presented MHL as a predictor of help-seeking intentions and attitudes (e.g. "*Studies indicate that in general, mental health literacy improves help seeking attitudes*"; Attygalle, Perera, & Jayamanne, 2017, p. 2), or used the term MHL to refer only to improved knowledge (e.g. "*to assess the extent to which the students had learned the curriculum and developed what we called 'depression literacy'*"; Hess et al., 2004, p. 230).

Measurement

Thirty-nine (43%) articles included items relating to general MHL. The exact terminology varied across studies e.g. mental disorder (Campos, Dias, Palha, Duarte, & Veiga, 2016), mental illness (Pinto-Foltz, Logsdon, & Myers, 2011), mental health problem (Dogra et al., 2012), and mental health issue (Livingston, Tugwell, Korf-Uzan, Cianfrone, & Coniglio, 2013). Few articles included items relating to mental health as opposed to mental ill-health. Bjørnsen et al. developed and validated a scale to assess adolescents' knowledge of how to obtain and maintain good mental health (Bjørnsen et al., 2017). Kutcher, Wei and Morgan, (2015) and Mcluckie, Kutcher, Wei and Weaver (2014) also included an individual knowledge item that assessed an understanding of the complete mental health state (e.g. "*People who have mental illness can at the same time have mental health*").

Table 3.2 presents the frequency and percentage of articles that assessed different types of diagnosis-specific literacy. In line with this focus, 57 (63%) articles utilized a vignette methodology, basing questions on descriptions, stories and scenarios relating to an

individual meeting diagnostic criteria for a given mental disorder. Of these articles, 12

(21%) used comparator vignettes describing individuals with physical health problems

(e.g. asthma or diabetes), control characters with good academic attainment, or 'normal

issues' or mental health problems relating to stressful life events (e.g. the death of an

elderly relative or the end of a romantic relationship). Table 3.3 presents the frequency and

percentage of articles that assessed different domains of MHL.

Table 3.2 *Frequency and percentage of articles focusing on diagnosis-specific literacy*

Diagnosis-specific Focus	Frequency (%)
Depressive disorders including items relating to suicidal thoughts and behaviours	67 (74%)
Psychotic disorders	42 (46%)
Anxiety disorders	28 (31%)
Social phobia	24 (86%)
Generalised anxiety disorder	6 (21%)
Panic disorder	3 (11%)
Attention deficit hyperactivity and conduct disorders	9 (10%)
Bipolar disorders	9 (10%)
Eating disorders	6 (7%)
Post-traumatic stress or related disorders	5 (5%)
Obsessive compulsive disorders	1 (1%)
Personality disorders	1 (1%)

Note: For social phobia, generalised anxiety disorder and panic disorder, % out of 28 articles including anxiety related items – this does not add up to 100% due to articles including more than one anxiety disorder.

Table 3.3 *Frequency and percentage of articles assessing mental health literacy domains*

MHL Domain	Total		Population		Intervention		Definition		No Definition	
	N	%	n	%	n	%	n	%	n	%
Recognition	**37**	**41%**	**28**	**48%**	**9**	**27%**	**27**	**66%**	**10**	**20%**
Recognition of specific mental illnesses based on a vignette by providing the correct diagnostic label	31	34%								
% correct open-ended responses	20	22%								
% correct multiple-choice responses	11	12%								
Recognition of a mental illness as opposed to a physical or spiritual problem	2	2%								
Assessment of recognition using alternative methods e.g. the ability to name or recognise names of mental illnesses	4	4%								
Knowledge	**76**	**84%**	**48**	**83%**	**28**	**85%**	**38**	**93%**	**38**	**76%**
Correct recognition i.e. knowledge of symptoms	33	36%								
Knowledge about mental illnesses	**33**	**36%**	**10**	**17%**	**23**	**70%**	**15**	**37%**	**18**	**36%**
Assessed with correct and incorrect responses	21	23%								

Assessed with attitudinal responses	12	13%								
Knowledge of prevention and promotion of mental health	**23**	**25%**	**20**	**35%**	**3**	**9%**	**14**	**34%**	**9**	**18%**
Assessed with correct and incorrect responses	1	1%								
% of different open-ended responses	2	2%								
Assessed with attitudinal responses	20	22%								
Perceived helpfulness /intentions to use self-help strategies	15	17%								
Beliefs about preventative strategies	7	8%								
Promotion of positive mental health.	2	2%								
Knowledge about help-seeking	**30**	**33%**	**24**	**41%**	**6**	**18%**	**15**	**37%**	**15**	**30%**
Intra-personal knowledge about help-seeking	13	14%								
Inter-personal knowledge about help-seeking	28	31%								
Open-ended items – knowledge of help sources and actions	22	24%								

Multiple-choice items – knowledge of help-seeking actions	2	2%							
Awareness of organisations and services	6	7%							
Mental illness stigma	**50**	**55%**	**25**	**43%**	**25**	**76%**	**21**	**51%**	**29**	**58%**
Intra-personal stigma	9	10%							
Inter-personal stigma	50	55%							
Personal	50	55%							
Perceived	9	10%							
Attitudes and beliefs	38	42%							
Emotional reactions	13	14%							
Behavioural intentions (social distance)	25	27%							
Actual discriminatory behaviours	3	3%							
Help-seeking beliefs	**64**	**70%**	**46**	**79%**	**18**	**55%**	**31**	**76%**	**33**	**66%**
Intra-personal beliefs	31	34%							
Inter-personal beliefs	57	63%							
Confidence and self-perceived help-seeking knowledge	16	18%							

Perceived helpfulness of referrals, help-sources and treatments	34	37%
Help-seeking intentions	47	52%
Stigma towards help-seeking	5	5%
Perceived help-seeking barriers	9	10%
Actual help-seeking behaviours	14	15%

Note: For total, all % out of 91, for population articles, all % out of 58, for intervention articles, all % out of 33, for definition provided, all % out of 41, for no definition provided, all % out of 50. Articles that assessed the ability to recognise mental illnesses using vignettes based on diagnostic criteria were also coded as measuring knowledge of symptoms.

Assessment of Measures

Measurement tools were too heterogeneous to conduct meta-analyses. As noted in Table 3.1 four articles (4%) had the primary aim of validating MHL related measures with adolescent samples (Bjørnsen et al., 2017; Campos et al., 2016; Hart et al., 2014; Pang et al., 2017). The scales assessed in Bjørnsen et al. (2017) and Pang et al. (2017) measured only one broad domain of MHL; knowledge of mental health promotion and mental illness stigma respectively. Hart et al. (2014) assessed the psychometric properties of a depression knowledge questionnaire and found a one-factor general knowledge latent structure to be the best fit to the data. Campos et al. (2016) aimed to provide a more comprehensive assessment of MHL, and by psychometrically assessing a pool of items, developed a 33-item tool with three latent factors: first aid skills and help-seeking, knowledge/stereotypes, and self-help strategies. A further 22 articles (24%), stated that some items or scales had been developed for the purpose of the study.

Thirty-nine articles (43%) stated that they based their items on Jorm and colleague's original MHL survey or later 2006 and 2011 versions (Jorm et al., 1997; Reavley & Jorm, 2011). Furthermore, two articles (2%) included items from the Mental Health First Aid Questionnaire (MHFAQ) as detailed by Hart, Mason, Kelly, Cvetkovski, & Jorm (2016). However, there is no evidence of the validity of these surveys as whole scales, and researchers commonly selected and modified items. The Friend in Need Questionnaire, similar to Jorm and colleagues MHL survey in that it covers multiple MHL domains, was developed by Burns and Rapee (2006) to avoid leading multiple-choice answers. Instead, open-ended responses were coded in order to quantify levels of MHL. Despite finding six articles (7%) that utilised a version of this questionnaire, no published validation paper was found. As part of the Adolescent Depression Awareness Programme (ADAP), an Adolescent Depression Knowledge Questionnaire (ADKQ) was developed and later

validated (Hart et al., 2014). Six articles (7%), including the validation paper, presented data using versions of the ADKQ.

Due to the multi-faceted nature of stigma, a range of measurement tools were identified across articles. The Attribution Questionnaire (AQ-27) was originally developed by Corrigan and colleagues (Corrigan, Markowitz, Watson, Rowan, & Corrigan, 2003; Corrigan et al., 2002) along with a brief 9-item scale (r-AQ) covering the following emotional reactions: blame, anger, pity, help, dangerousness, fear, avoidance, segregation and coercion. A similar 8-item version (AQ-8-C) was also developed for children (Corrigan et al., 2007). The r-AQ was adapted by Watson et al. (2004) for use with middle school-aged adolescents, and a 5-item version was more recently validated by Pinto, Hickman, Logsdon and Burant (2012). Four articles (4%) identified in this review used variations of the r-AQ.

Link, Bresnahan, Stueve, Pescosolido and Star (1999) developed the 5-item Social Distance Scale (SDS), which was later adapted for young people (Jorm & Wright, 2008). This version was more recently validated with a large sample aged 15–25 (Yap, Mackinnon, Reavley, & Jorm, 2014). Five articles (5%) cited this version of the SDS. Seven articles (8%) used variations of the World Psychiatric Association's (WPA) social distance items (Pinfold et al., 2003); however, no adolescent validation paper was found. This review also found factual and attitudinal WPA scales presented by Pinfold et al. (2003) including the Myths and Facts about Schizophrenia Questionnaire. In total, these scales, or modified versions, were used in eight articles (9%), but no validation papers were found. The Reported and Intended Behaviour Scale (RIBS) (Evans-Lacko et al., 2011) was utilised in three articles (3%). This scale has been translated into Japanese and Italian, and there is evidence of its validity with adult and university student samples (Pingani et al., 2016; Yamaguchi, Koike, Watanabe, & Ando, 2014). The evidence of its validity with an adolescent sample was mixed (Mansfield, Humphrey, & Patalay, 2019).

The Depression Stigma Scale (DSS) was developed by Griffiths, Christensen, Jorm, Evans and Groves (2004) to measure personal and perceived depression stigma. Yap et al. (2014) later validated the DSS and confirmed that personal and perceived stigma were distinct constructs comprised of 'weak-not-sick' and 'dangerous/unpredictable' factors in a sample aged 15– 25. Six articles (7%) utilised a version of the DSS, more commonly the items relating to personal stigma. Items from the Opinions about Mental Illness Scale (OMI) were used in two articles (2%). The original scale was cited by both (Cohen & Struening, 1962); however, a Chinese version of the OMI has been tested for validity with a sample of secondary school students (Ng & Chan, 2000). Other validated stigma scales identified included: the Attitudes toward Serious Mental Illness Scale–Adolescent Version (ATSMI-AV) (Watson, Miller, & Lyons, 2005) (n = 1, 1%), and the Subjective Social Status Loss Scale (Goodman et al., 2001) (n = 1, 1%). Measures of help-seeking attitudes and intentions were often not validated with adolescent samples. Two articles (2%) modified the General Help Seeking Questionnaire (GHSQ), previously validated for use with high school students (Wilson, Dean, & Ciarrochi, 2005). A further two articles (2%) utilised the Self-Stigma of Seeking Help (SSOSH) scale; however, tests of its validity have only been conducted with college students (Vogel, Wade, & Haake, 2006).

3.5   Discussion

The aims of this review were to investigate the conceptualisation and measurement of MHL in adolescent research, and scope the extent of methodological homogeneity for possible meta-analyses. The review clearly shows an increase in school-based MHL research with adolescent samples in recent years. This makes sense given that adolescence is increasingly identified as an important period for improving MHL and access to mental health services (Department of Health and Education, 2017; Kieling et al., 2011; Neufeld et al., 2017; O'Connell et al., 2009). However, the field is still dominated by research from Western, developed countries and takes a predominantly mental-ill health approach.

Furthermore, numerous challenges and inconsistencies have emerged in the field over the past 20 years.

Included articles were required to use the term 'mental health literacy' or a diagnosis-specific equivalent. However, by first including all articles that presented data for at least one MHL domain, a large number of articles that measured domains without referring to MHL were revealed. Researchers were measuring the same constructs but providing different labels indicating problems with discriminant validity (Marsh, 1994; Spiker & Hammer, 2018). It must be acknowledged that some of the articles included in the final set may have used the term without intending to measure the whole construct, and some articles were removed that measured multiple domains. For example, 16 intervention studies, previously included in a systematic literature review of the effectiveness of MHL interventions (Wei et al., 2013), were excluded from this current review because they did not use the term. Despite the exclusion of some potentially relevant data on a domain level, this criterion was considered most appropriate given one of the aims was to assess the conceptualisation of MHL.

Although under half of the articles identified defined MHL, those that did predominantly used definitions from Jorm and colleagues (Jorm et al., 1997; Jorm, 2000; Jorm, 2012). However, the various adaptations and interpretations of the original definition has clearly led to a lack of construct travelling in the field, in particular, confusion about the inclusion of beliefs and stigma related constructs as MHL domains. Furthermore, few articles referred to mental health and varying degrees of psychological distress in addition to mental illness, supporting the argument that current MHL definitions take a predominantly mental-ill health approach (Chambers et al., 2015; O'Connor et al., 2014).

Although an adolescent specific definition of MHL may not be necessary, definitions frequently adopted by articles in this review were developed for adults. It is important for future research to consider not only cognitive development but also the unique social

structures and vulnerabilities of adolescents in the conceptualisation and assessment of MHL. Given that the definition of adolescence in the current study ranges from 10 to 19 years, it is clear that even within this age range, different developmental factors could be considered. Applying integrated models of generic health literacy to MHL that acknowledge the life course and social and environmental determinants should therefore be a future priority (Bröder et al., 2017; Sorensen et al., 2012).

Around a third of articles measured recognition of specific mental illnesses, with the majority using open-ended questions such as 'What, if anything, do you think is wrong …', and calculating the % of correct responses. Knowledge of mental illnesses was measured more frequently than knowledge of prevention and promotion, therefore an understanding of the complete mental health state was often neglected (Keyes, 2005). More research is needed to develop and validate measures that assess the ability to seek out, comprehend, appraise and apply information relating to the complete mental health state as opposed to only assessing literacy of mental disorders. By using measurement tools that predominantly focus on psychiatric labels, there is evidence to suggest that stigma could be increased (Kinderman et al., 2013; Schomerus et al., 2012). Given that over three quarters of intervention studies identified in this review included a measure of stigma, future research should consider the way in which mental-ill health approaches to MHL, in terms of intervention content and study measures, may influence stigma related outcomes.

It is perhaps unsurprising that the MHL field continues to be modelled on psychiatric labelling given the influence of Jorm and colleagues early work in Australia that came out of the National Health and Medical Research Council (NHMRC) Social Psychiatry Research Unit (Jorm et al., 1997). Kutcher and colleagues MHL definition also has its origins in psychiatry, but more explicitly includes understanding of mental health promotion and stigma reduction (Kutcher et al., 2016). A growing body of research relating to eating disorders literacy also emphasises the need to distinguish between health

promotion, prevention and early intervention initiatives in reducing the population health burden of eating-disordered behaviour, and to prioritise mental health promotion programs, including those targeting stigma reduction (Bullivant, Rhydderch, Griffiths, Mitchison, & Mond, 2020; Mond, 2014, 2016). This review identified an emerging group of articles that included understanding of how to obtain and maintain good mental health in their conceptualisation of MHL. However, this domain was rarely measured.

Just under half of the articles included items relating to general MHL. However, terminology was varied (e.g. mental illness, mental disorder, mental health problem, mental health issue). Leighton (2009) revealed that young people have a lack of conceptual clarity when it comes to these mental health related terms, unsurprising given the lack of consistent definitions in practice. The range and subjectivity of mental health related terms reduces the meaningfulness of comparisons across MHL studies. Similarly, over half of the articles identified in this review assessed mental illness stigma, but the complexity of the construct caused heterogeneity in measurement. Intentions to seek help were the most commonly measured help-seeking belief; these findings support previous assessments of MHL measurement tools (O'Connor et al., 2014). Measuring only intentions to seek help, without capturing knowledge of what help is available, will not provide a true picture of actual behaviour change. Findings also suggested that recognition and help-seeking related beliefs may be more directly associated with the MHL construct and, in line with previous literature (Wei et al., 2013), mental illness stigma was found to be a common outcome measure in MHL related interventions.

It is worth considering whether the MHL construct should continue to be stretched or whether we should accept that the multiple domains exist in their own right. For example, self-acquired knowledge and skills relating to positive psychology are being investigated, but are only just starting to emerge under the MHL construct (Bjørnsen et al., 2017; Kusan, 2013). Similarly, stigma and help-seeking knowledge and beliefs are assessed as part of,

and independently from, the MHL framework. Adopting a multi-construct theory approach to MHL, as suggested by Spiker and Hammer (2018), would see increased focus on developing and validating measures of specific MHL domains in order to better understand the way in which these domains relate to each other.

Developing better MHL theory will help provide clear logic models and theories of change for MHL interventions aiming to improve adolescent mental health, something currently lacking in the field. Although it should be acknowledged that the aims of MHL interventions will vary based on the scope, setting and cultural context, an increased number of validated measures, as well as improved MHL theory, could inform decisions about the most appropriate domain to measure as the outcome i.e. is the main aim of the intervention to reduce stigma or improve help-seeking. This is particularly important for school-based evaluations of MHL interventions for which respondent burden is often a concern.

We acknowledge that there were some articles in this review that adapted adult measures and tested for face and content validity with child and adolescent mental health professionals, and internal reliability and comprehension with adolescent samples. However, in general there was a lack of psychometric work to assess factor structure of scale-based measures in this age group, with large numbers of articles presenting data on an item level. More research should be conducted like that of Campos et al. (2016) working with young people to develop and psychometrically test pools of MHL items to identify latent factors. This will help to inform future conceptualisation and measurement in this age group.

Even when there was evidence of a measure's validity for use with adolescents, many articles selected only the items relevant for their study or adapted the scale to fit the cultural context. This may, in part, be an attempt to reduce the number of items and therefore the response burden. However, adaptation to measures based on the cultural

discourse around mental health aligns with school-based mental health promotion approaches that account for children's social, cultural and political contexts (O'Toole, 2017). This raises the important question as to whether we should be trying to test and compare mental health related knowledge across cultures, particularly given the ongoing levels of disagreement amongst mental health professions between and within countries. A previous review of cross-cultural conceptualisations of positive mental health concluded that future definitions should be inclusive and culturally sensitive, and that more work was needed to empirically validate criteria for mental health (Vaillant, 2012). Future research should consider conducting measurement invariance on existing MHL measures across different cultures. A comparison of knowledge items and their pre-defined correct answers, could help understand cultural differences in the discourse around mental health and what it means to be mental health literate across contexts.

Given the increased political interest in mental health promotion and education (Department of Health and Education, 2017; Kieling et al., 2011), we recommend that MHL research focuses on increasing understanding of ways to promote and maintain positive mental health, including subjective wellbeing, optimal functioning, coping and resilience (Srivastava, 2011; WHO, 2018). Examples of knowledge items with true/false responses were identified in the current review and many aligned with a biogenetic conceptualisation of mental illness. Not only could these 'truths' cause more negative attitudes towards individuals experiencing mental health difficulties (Kvaale et al., 2013), many mapped directly onto the content of interventions and therefore do not provide any evidence of adolescents' ability to critically appraise mental health information. To enhance individual and community-level critical MHL, the MHL field should apply models of public health literacy that aim to increase empowerment and control over health decisions, and acknowledge the interaction between an individual's ability and their social and contextual demands (Freedman et al., 2009; Nutbeam, 2008; Pleasant & Kuruvilla,

2008; Sorensen et al., 2012). Given that mental health is a key component of health, it is also worth questioning the usefulness of this separation moving forward; a MHL field that is playing catch up with more developed health literacy approaches could further exaggerate the existing lack of parity of esteem.

Conclusions

MHL research with adolescent populations is on the rise, but this review has highlighted some important areas for future consideration. Increasingly stretched definitions of MHL have led to conceptual confusion and methodological inconsistency, and there is a lack of measures developed and psychometrically tested with adolescents. Furthermore, the field is still dominated by a mental-ill health approach, with limited measures assessing the promotion of positive mental health. We suggest that the MHL field moves away from assessing 'mental disorder literacy' and towards critical 'mental health literacy'. A better understanding of what MHL means for adolescents is needed in order to develop reliable, valid and feasible measures that acknowledge their developmental stage and unique social and contextual demands. In conclusion, by treating MHL as a multi-construct theory, more could be understood about the mechanisms for change in improving adolescent mental health.

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4 CHAPTER FOUR: PSYCHOMETRIC VALIDATION OF THE REPORTED AND INTENTED BEHAVIOUR SCALE (RIBS) WITH ADOLESCENTS (STUDY TWO)

Mansfield, R., Humphrey, N., & Patalay, P. (2019). Psychometric validation of the Reported and Intended Behaviour Scale (RIBS) with adolescents. *Stigma and Health*. https://doi.org/10.1037/sah0000200

4.1   Abstract

Despite increasing interest in mental health education to reduce stigma, few studies assess changes in self-reported and intended discriminatory behaviour. The current study evaluated the psychometric quality of the Reported and Intended Behaviour Scale (RIBS) with adolescents. Participants were 11-15-year-olds from England (N = 1,032, 58% female). Confirmatory factor analysis (CFA) established a two-factor structure. The intended behaviour scale showed high internal consistency (α = .94, ω = .94) and observed ceiling effects. A moderate correlation was found between intended behaviour and stigma-related knowledge (r = .39). The average reading age was 14 years; however, the introductory text had a high reading age and might benefit from being simplified in future use. Females and early adolescents (aged 11-13 years) reported more positive intended behaviours overall, with some group differences in item response. Multi-group CFA revealed partial scalar measurement invariance. Future research should assess self-reported and intended behaviour and be cautious when investigating mean differences for gender and age.

4.2 Introduction

Adolescent populations have been majorly underrepresented in the mental health stigma literature over the past few decades (Link, Yang, Phelan, & Collins, 2004). Understanding the extent of adolescent stigma is important, not least because stigmatising attitudes are repeatedly found to predict the help-seeking intentions of young people (Clement et al., 2015; Gulliver, Griffiths, & Christensen, 2010). Despite a growing interest in adolescent stigma, and an increased number of evidence-based stigma reduction interventions, there remains a lack of reliable and valid measures for this population. Furthermore, few researchers are considering the multi-faceted nature of stigma when selecting the most appropriate measures for a given research question (DeLuca, 2019).

Existing conceptualisations of stigma suggest it is a process involving labelling, stereotyping, cognitive separation, emotional reactions, status loss, and discrimination (Corrigan, 2000; Link et al., 2004). Thornicroft, Rose and Kassam (2007) present it as a problem of "*knowledge (ignorance), attitudes (prejudice), and behaviour (discrimination)*" (p.192). This conceptualisation maps onto the stigma process such that ignorance increases stereotype beliefs which, in turn, cause negative attitudes, emotional reactions and possible discriminatory behaviour. Stigma also exists at both a public and personal level, where perceived public and personal stigma are theorised as distinct constructs (Griffiths, Christensen, & Jorm, 2008). An individual can hold stigmatising beliefs, perceive public stigma, and internalise experiences of stigma and discrimination, reducing the likelihood of help-seeking behaviours and disclosures (Thornicroft, 2008).

Perceptions of public stigma and experiences of discrimination are consistently reported by individuals experiencing mental health difficulties, leading to reduced social connections, as well as structural inequalities in income, housing, and employment (Stuart, Arboleda-Florez, & Sartorius, 2012). Furthermore, in a study of adolescent stigma experiences, young people who had previously received a psychiatric diagnosis reported a high level of

social stigma, including loss of friendships, family stigma, and discriminatory behaviour from school staff (Moses, 2010). Supportive social networks and positive peer relations have been found to reduce the risk of adolescents experiencing mental distress and improve symptoms (Ciarrochi, Morin, Sahdra, Litalien, & Parker, 2017; Crush et al., 2018; Van Droogenbroeck, Spruyt, & Keppens, 2018). These findings highlight the importance of developing better methods of measuring discriminatory behaviours in adolescent populations, in addition to knowledge and attitudes, in order to understand the processes by which they can be reduced. Given the evidence that intended or hypothetical behaviour does not always translate into actual behaviour change (Eisenberg, Speer, & Hunt, 2012; Thornicroft et al., 2007), measuring self-reported as well as intended behaviour towards individuals experiencing mental health difficulties is recommended when evaluating anti-stigma interventions.

Reviews of the stigma literature have revealed that the measurement of self-reported discriminatory behaviour is limited and that hypothetical or intended behaviours are measured less frequently than attitudes (Corrigan, Morris, Michaels, Rafacz, & Rusch, 2012; Fox, Earnshaw, Taverna, & Vogt, 2017). One hundred and one scales were identified in a recent review of stigma measurement tools. However, only eight were validated for child and adolescent samples, and none measured discriminatory behaviour (Wei, McGrath, Hayden, & Kutcher, 2017). In a review of school-based interventions with the aim of improving mental health knowledge, stigma and help-seeking behaviours, attitudes towards mental illness were found to be the most commonly measured outcome. Of the 21 studies that measured stigma, only six used validated scales; none captured self-reported discriminatory behaviours (Wei, Hayden, Kutcher, Zygmunt, & McGrath, 2013).

The lack of validated adolescent measures has led to the use of adult scales without consideration of their appropriateness or validity in this younger age-group. For example, in a recent evaluation of a school-based knowledge-contact intervention to reduce

adolescent stigma, validated adult measures of mental health stigma and knowledge were utilised (Chisholm et al., 2016). One of these, the Reported and Intended Behaviour Scale (RIBS) (Evans-Lacko et al., 2011) was developed and validated with a United Kingdom (UK) adult sample with the aim of capturing self-reported as well as intentional behaviours towards individuals experiencing mental health difficulties. The RIBS has since been translated into Japanese and Italian and validated with university students and adults (Pingani et al., 2016; Yamaguchi, Koike, Watanabe, & Ando, 2014). However, to date, the scale has not been validated with an adolescent sample.

As a measure intended for adult readers, there is no evidence that adolescents are able to access the content of the scale. There are also complex findings relating to age as a predictor of stigmatising attitudes. Previous research found that although social distance and the belief that mental health difficulties were a sign of weakness *decreased* with age, perceived stigma, reluctance to disclose, and the belief that mental health difficulties made a person dangerous and unpredictable *increased* (Jorm & Wright, 2008). An assessment of the readability and measurement invariance for different age groups is therefore necessary. Furthermore, given that studies commonly find that adolescent males report more stigmatising attitudes (Williams & Pow, 2007; Yoshioka, Reavley, MacKinnon, & Jorm, 2014), there is also a need to explore gender measurement invariance.

With an increased political interest in school-based mental health education aiming to reduce stigma (Department of Health and Education, 2017), it is important to assess self-reported behaviour change as well as hypothetical actions and intended behaviours. The aim of the current study is therefore to evaluate the quality of the RIBS for measuring reported and intended discriminatory behaviours towards individuals experiencing mental health difficulties in an adolescent sample. Our findings can inform the future use of RIBS to monitor discriminatory behaviours in adolescent populations, and evaluate school-based mental health education aiming to reduce both negative attitudes and behaviours.

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4.3 Method

Design

In this psychometric validation study we assess the internal consistency, floor and ceiling effects, construct and convergent validity, content validity, and interpretability of RIBS (Terwee et al., 2007). Internal consistency is assessed through confirmatory factor analysis (CFA) and calculations of Cronbach's alpha and McDonald's Omega. Floor and ceiling effects are reported if 15% or more of the sample receive the lowest or highest possible score (Terwee et al., 2007). Assessment of construct validity is informed by existing theory that suggests negative attitudes towards individuals experiencing mental health difficulties are predictive of lower help-seeking intentions (Clement et al., 2015; Gulliver et al., 2010). Construct validity is assessed using a latent correlation with the General Help-Seeking Questionnaire (GHSQ). Convergent validity is assessed via a latent correlation with the Mental Health Knowledge Schedule (MAKS), an alternative stigma measure that aims to assess stigma-related stereotype knowledge (Evans-Lacko et al., 2010). Content validity is assessed by exploring the readability of RIBS. Finally, interpretability is explored through sub-group analyses of gender and age group, including analysis of measurement invariance.

Sample

The current study utilised follow-up data from two feasibility trials conducted in 2017–2018 as part of the Education for Wellbeing Programme funded by the Department for Education, England. The feasibility trials piloted a proposed measurement framework and informed the development and adaptation of intervention materials, and the nature and scheduling of delivery for English schools, ahead of two efficacy trials (Hayes et al., 2019a, Hayes et al., 2019b). Ethical approval was granted by University College London Ethics Committee (reference: 3562/004). Given that this study was conducted using data

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from two school-based trials, the sample was a convenience sample and therefore focused only on early adolescents (years 7–8, ages 11–13 years) and mid adolescents (years 9–10, ages 13–15 years).

A total of N = 1,823 participants were recruited from 10 secondary schools in South East England. Prior to data collection, a parental opt-out consent procedure led to a total of N = 35 pupils being opted out of the study. Three schools were unable to facilitate the follow-up survey. Pupils from the remaining seven schools completed the secure online survey in teacher-facilitated sessions between June and July 2018. Seven pupils who had not provided assent were removed, leaving a sample of N = 1,132 pupils who assented to completing the survey. A further 100 participants were removed because of incomplete data (i.e. missing for all RIBS items). Demographic information was available for 89% of those removed. Incomplete data were equally split across males (n = 45) and females (n = 44); however, more participants in years 9–10 (n = 69) were deleted because of incomplete data compared with years 7–8 (n = 20). The final sample for analyses was N = 1,032, 57% of the initial number of pupils recruited, of whom 42% were male (n = 430) and 58% were female (n = 602). Thirty-four percent were in early adolescence (n = 347) and 66% were in mid adolescents (n = 685). This sample size exceeds the minimal recommended threshold for structural equation modelling using the robust least squares (WLSMV) estimator (>300; Moshagen & Musch, 2014). Missing data patterns were tested using Little's Missing Completely at Random Test (MCAR; Little, 1988). Data were not found to be MCAR ($\chi 2$ = 149.80, df = 99, p = .001); however, the level of missing data was <5% (.6-2.1%) (Garson, 2015). Due to low levels of item level missing data, no imputation methods were utilized in the current study; the WLSMV estimator uses all available data using pairwise present.

Measures

Gender and year group was the only demographic information collected from pupils in the current study.

Reported and Intended Behaviour Scale (RIBS) (Evans-Lacko et al., 2011)

RIBS was developed to assess reported and intended behaviour towards individuals experiencing a mental health problem. The authors describe the term mental health problem as a *"compromise between mental illness/mental distress"* (p.6). Individuals with a mental health problem are exemplified for respondents as *'people seen by healthcare staff'*. Items 1-4 assess self-reported behaviours: living and working with, living nearby and having a close friend experiencing a mental health problem (response options: *'yes' 'no'* and *'don't know'*). In the current study, *'yes'* was coded as one and *'no'* and *'don't know'* as zero, as per an adult validation of RIBS (Yamaguchi et al., 2014). Intended behaviours (items 5-8) are assessed in terms of participants' willingness to have future contact across the same four contexts (response options: 1 = *disagree strongly,* 2 = *disagree slightly*, 3 = *neither agree nor disagree/don't know*, 4 = *agree slightly*, 5 = *agree strongly*). Total scores range from 4-20, with high scores indicating more positive intended behaviours. Cronbach's alpha has been reported at .85 with an adult sample (Evans-Lacko et al., 2011) and .86 with an adolescent sample aged 11-13 (Chisholm et al., 2016).

Mental Health Knowledge Schedule (MAKS) (Evans-Lacko et al., 2010)

MAKS was developed to assess stigma-related knowledge thought to relate to mental-health related attitudes and behaviours. Stigma related-knowledge (items 1-6) is measured in relation to help-seeking, support, employment, treatment, recovery, and recognition (response options: 1 = *strongly disagree* – 5 = *strongly agree*, where *'don't know'* is coded as 3). In the current study a total score was calculated (6-30), with a higher score indicating better stigma related knowledge. In order that agreement indicated a high score, item six

'Most people with mental health problems go to a healthcare professional to get help.' was reverse coded. Other MAKS items were developed to assess recognition of mental illnesses and were not included in the current study. The scale (items 1-6) was found to have moderate internal consistency (Cronbach's alpha = .65) with an adult sample (Evans-Lacko et al., 2010) and low internal consistency (Cronbach's alpha = .24) in an adolescent sample (Chisholm et al., 2016).

General Help-Seeking Questionnaire (GHSQ) (Wilson, Deane, Ciarrochi, & Rickwood, 2005)

The GHSQ consists of 10 items that assess the intention to seek help from informal sources (friend, parent and non-parent family), teachers, professional sources (mental health professional, telephone mental health helpline, doctor/general practitioner (GP)), someone else not listed, or to not seek help at all. It was designed to be adapted to fit different samples and research contexts; however, items are commonly presented in the following format: *'If you have [problem type], how likely are you to talk to a [help source] about it?'*. In the current study, pupils were presented with the following: *'please circle the number that shows how likely it is that you would seek help from each of these people if you were experiencing difficulties with your thoughts, feelings and behaviours during the next 4 weeks?'*. Participants responded to each source of help using a seven-point Likert scale (1 = *extremely unlikely* – 7 = *extremely likely*). The 'partner or significant other' item was removed from the current study as it was not deemed appropriate for all ages. Scores on items referring to specific help sources (items 1-8) were averaged to provide a mean likelihood of help-seeking. Due to the optional nature of the 'someone else not listed' item, this was not included in the calculation. When asked about intended help-seeking for personal-emotional problems, items showed moderate to good internal consistency (Cronbach's alpha = .70) in a sample of 218 high school students (Wilson et al., 2005).

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Data Analysis

Data handling was conducted in SPSS Version 23 and analyses in Mplus version 8.1.

Models were assessed using SEM, with WLSMV estimator due to categorical item

responses (Li, 2016). Controlling for less than 50 clusters when conducting two-level CFA

(Type = Complex command in Mplus) can cause inaccuracy of group-level parameters and

standard errors (Hox, Maas, & Brinkhuis, 2010). Thus, due to the low number of schools

(N = 7), all analyses were conducted without accounting for clustering. The criteria used

for assessing good model fit was an RMSEA value of <.06 and CFI and TLI values >.95

(Hu & Bentler, 1999). Factor structure was examined by conducting CFA for two-latent

factors, reported and intended behaviours, previously confirmed with university student

and adult samples (Pingani et al., 2016; Yamaguchi et al., 2014). Cronbach's alpha (α) and

McDonald's omega (ω) were calculated to assess internal consistency. McDonalds's ω

supplemented α as it ensures better estimates in the absence of tau-equivalence, normality,

and for data comprising ordinal responses (Trizano-Hermosilla & Alvarado, 2016).

Construct validity was assessed by correlating the latent variable(s) with the mean

likelihood of help-seeking calculated from the GHSQ. Convergent validity was assessed by

correlating the latent variable(s) with MAKS.

Differences in responses to reported and intended behaviour items were explored using

group measurement invariance. Specifically, differential item functioning (DIF) comparing

gender and age group was examined in a multiple indicator multiple cause (MIMIC)

model. Gender and age group were added as covariates of the latent factor(s) and

modification indices (MI) were used to identify direct and indirect effects. DIF between

groups is identified when direct effects are observed. The MIMIC model can identify

differences in thresholds and factor means. Multi-group CFA was also conducted to

explore group measurement invariance using factor loadings and residual variances.

Baseline models were examined separately for each group (males, females, early and mid-

adolescence) to confirm the two-factor structure. Configural and scalar invariance was assessed by freely estimating factor loadings and thresholds, and then by fixing them across groups. The scalar invariance model was then compared to the configural invariance model using the Mplus command DIFFTEST, in which a non-significant chi-square value indicates full measurement invariance. Partial invariance was explored by relaxing the parameters suggested in the MI output, and conducting a DIFFTEST with the previous model.

Readability

Readability estimates were calculated using four well established indices previously applied to other adolescent measures (Patalay, Hayes, & Wolpert, 2018): the Dale-Chall Readability Formula (DC) (Chall & Dale, 1995; Dale & Chall, 1948), the Flesch-Kincaid Reading Grade (FK) (Kincaid, Fishburne, Rogers, & Chissom, 1975), the Gunning Fog Index (GFI) (Gunning, 1952) and the Coleman Liau Index (Coleman & Liau, 1975). Each has a unique focus, estimating readability by incorporating different assessments. For example, the formula for DC incorporates the proportion of difficult words, FK the average number of syllables per word, GFI the number of words made up of three or more syllables, and CLI the average number of letters per word. See Appendix Two for the full formula. In all cases, readability was calculated as a United States (US) grade level and converted to chronological age by adding six to the grade-level score.

4.4   Results

Factor Structure

Figure 4.1 presents the model (a) with two factors 'reported behaviour' and 'intended behaviour'. Good model fit is evident (N = 1,032, χ^2 = 78.37; df = 19; p < .001; RMSEA [90% CI] = .06 [.04 - .07], CFI = 1.00, TLI = 1.00). Factor loadings are significant in all cases, with generally higher loadings for intended behaviour items compared with items

loading onto the reported behaviour factor. Item three *'Do you currently have, or have you ever had, a neighbour with a mental health problem?'* demonstrated a comparatively weaker estimate compared with other reported behaviour items.

Figure 4.1 *The two-factor structure for RIBS and MIMIC models with gender and age group as covariates*
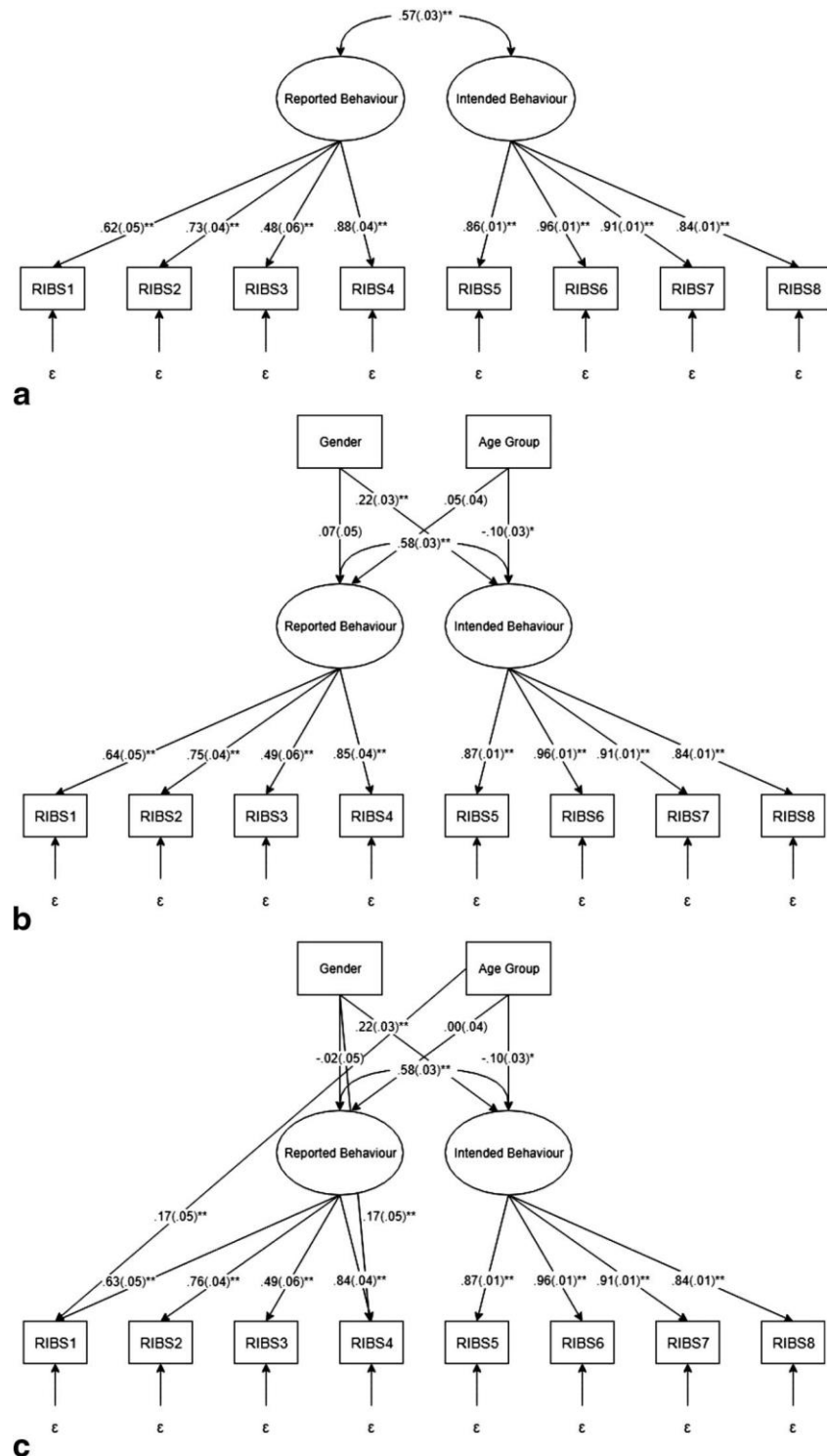
Note: b) is without direct effects and c) includes direct effects. Models include standardised path coefficients (standard error), factor loadings (standard error) and correlations between factors. Note that ** indicates parameter estimate with p≤.001 and * p<.010.

Floor/Ceiling Effects

Floor and ceiling effects were only assessed for the intended behaviour scale as the items loading onto the reported behaviour scale used a *'yes' 'no/don't know'* response format, and are intended to be reported as prevalence. No floor effects were found for the intended behaviour scale; however, 23% received the highest score of 20, indicative of a ceiling effect. A high score indicates more positive intended behaviours towards individuals experiencing mental health difficulties, with over one fifth of the sample strongly agreeing that they were willing to have contact across the four different contexts. At an item level, ceiling effects were found with >15% of participants selecting *'strongly agree'* to all items. Table 4.1 shows the item response distribution.

Table 4.1 *Response distribution for the reported and intended behaviour scales*

Reported Behaviour Scale (% (count) responding yes)	Male	Female	Early-adolescents	Mid-adolescents	Total
1) Are you currently living with, or have you ever lived with, someone with a mental health problem?	16(68)	16(98)	11(39)	19(127)	16(166)
2) Are you currently working with, or have you ever worked with, someone with a mental health problem?	18(76)	16(96)	17(58)	17(114)	17(172)
3) Do you currently have, or have you ever had, a neighbour with a mental health problem?	14(61)	12(72)	14(46)	13(87)	13(133)
4) Do you currently have, or have you ever had, a close friend with a mental health problem?	22(92)	32(188)	29(99)	27(181)	28(280)
Intended Behaviour Scale (% (count) total sample)	1	2	3	4	5
5) In the future, I would be willing to live with someone with a mental health problem.	05(51)	07(73)	41(417)	22(227)	25(255)
6) In the future, I would be willing to work with someone with a mental health problem.	03(28)	03(33)	30(308)	27(281)	37(375)
7) In the future, I would be willing to live nearby to someone with a mental health problem.	03(26)	02(23)	29(289)	27(268)	40(404)
8) In the future, I would be willing to continue a relationship with a friend who developed a mental health problem.	02(22)	03(30)	30(305)	22(224)	43(435)

Note: 1 = *disagree strongly*, 2 = *disagree slightly*, 3 = *neither agree nor disagree/don't know*, 4 = *agree slightly*, 5 = *agree strongly*

Reliability and Validity

A high level of internal consistency was found for the intended behaviour scale

(Cronbach's α = .94; McDonald's ω = .94). Table 4.2 presents descriptive statistics,

bivariate and latent correlations and measures of internal consistency for the intended

behaviour scale, MAKS and the GHSQ. Results reveal significant correlations between

intended behaviour and MAKS and between MAKS and GHSQ. More positive intended

behaviours towards individuals experiencing mental health difficulties predicted greater

stigma-related knowledge on MAKS; this association was moderate in magnitude ($r > .30$)

(Cohen, 1988). Furthermore, the higher the score on MAKS, the higher the average help-

seeking intentions on the GHSQ. However, the effect was very small ($r < .10$). No

significant correlations were found between the intended behaviour scale and the average

GHSQ score.

Table 4.2 *Descriptive statistics by gender and age group, total sample bivariate (latent) correlations and internal reliability*

| Measure | Sample Size Mean(Standard Deviation) | | | | | Bivariate(Latent) Correlation Coefficients | | | Internal Reliability | |
	Male	Female	Early-adolescents	Mid-adolescents	Total	1	2	3	α	ω
1. IBS	N = 411	N = 587	N = 338	N = 660	N = 998					
	14.43(3.70)	16.25(3.46)	16.32(3.65)	15.08(3.62)	15.50(3.68)	-	-	-	.94	.94
2. MAKS	N = 398	N = 564	N = 332	N = 630	N = 962	.				
	20.78(3.08)	21.12(2.87)	21.34(2.82)	20.79(3.02)	20.98(2.96)	39**(.43**)	-	-	.53	.62
3. GHSQ_A	N = 380	N = 537	N = 312	N = 605	N = 917					
	3.43(1.36)	3.31(1.17)	3.33(1.14)	3.38(1.30)	3.36(1.25)	.03(.04)	.06(.06*)	-	.85	.87

Note: IBS = 4-item (items 5-8) Intended Behaviour Scale, MAKS = 6-item (items 1-6) Mental Health Knowledge Schedule, GHSQ_A = General Help Seeking Questionnaire – average help-seeking intentions ((total items 1-8)/8), ** $p < .001$, * $p \leq .05$.

Readability

Table 4.3 presents the four readability scores by US grade-level, the average of the four indices, and the reading age. The introductory text shows a considerably higher average reading age compared with the instructions for completion and individual items. A reading age of 19.55 indicates that the introductory text can be read by adults. Item eight *'In the future, I would be willing to continue a relationship with a friend who developed a mental health problem'* was also shown to have a higher average reading age compared with all other items, caused by sentence length and the use of more complex words. Both the reported and intended behaviour sub-scales (and, as a result, the total RIBS) had an average reading age of approximately 14 years. This is considerably lower than the adult group (aged 25-45) for which the scale was originally developed and validated (Evans-Lacko et al., 2011).

Table 4.3 *Average readability estimates (US grade and years) for the introductory text, instructions, full scale, sub-scales and items of RIBS*

	DC	FK	GFI	CLI	Grade	Age
Introductory Text						
The following questions ask about your experiences and views in relation to people who have mental health problems (for example, people seen by healthcare staff).	9.30	13.98	16.40	14.53	13.55	19.55
Instructions: For each of questions 1–4, please respond by ticking one box only.	5.46	5.09	5.60	4.34	5.12	11.12
1) Are you currently living with, or have you ever lived with, someone with a mental health problem?	7.27	7.68	9.15	9.43	8.38	14.38
2) Are you currently working with, or have you ever worked with, someone with a mental health problem?	7.27	7.68	9.15	10.13	8.56	14.56
3) Do you currently have, or have you ever had, a neighbour with a mental health problem?	7.39	6.93	8.90	7.34	7.64	13.64
4) Do you currently have, or have you ever had, a close friend with a mental health problem?	7.27	6.26	9.15	6.67	7.34	13.34
Reported Behaviours Sub-Scale Total	7.30	7.11	9.09	8.41	7.97	13.97
Instructions: For each of the questions 5–8, please respond by ticking one box only.	5.43	5.25	6.00	4.18	5.21	11.21
5) In the future, I would be willing to live with someone with a mental health problem.	7.39	6.11	6.40	6.97	6.72	12.72
6) In the future, I would be willing to work with someone with a mental health problem.	7.39	6.11	6.40	6.97	6.72	12.72
7) In the future, I would be willing to live nearby to someone with a mental health problem.	7.27	6.97	6.80	7.01	7.01	13.01
8) In the future, I would be willing to continue a relationship with a friend who developed a mental health problem.	9.37	10.50	14.00	9.77	10.91	16.91
Intended Behaviours Sub-Scale Total	7.92	7.54	8.64	7.79	7.97	13.97
Introductory Text + Instructions	7.16	8.66	10.16	9.01	8.75	14.75
Total RIBS (items 1-8)	7.61	7.32	8.86	8.09	7.97	13.97

Note. DC = Dale-Chall Readability Formula; FK = Flesch-Kincaid Reading Grade; GFI = Gunning Fog Index; CLI = Coleman Liau Index.

Differential Item Functioning

A MIMIC model that included gender and age group as covariates in the CFA model showed acceptable model fit (N = 1,032, χ^2 = 121.77; df = 31; p < .001; RMSEA [90% CI] = .05 [.04 - .06], CFI = 1.00, TLI = .99). No direct effects were observed for gender or age group on the reported behaviour latent factor; however, there was a significant effect of gender on the intended behaviour latent factor, such that females showed significantly more positive intended behaviours than males. There was also an effect of age group on the intended behaviour latent factor, with mid adolescents showing significantly lower scores than early adolescents. Model MIs showed that adding the direct effect of age group on item one and the direct effect of gender on item four would improve the model; however fit remained consistent (N = 1,032, χ^2 = 96.28; df = 29; p < .001; RMSEA [90% CI] = .05 [.04 - .06], CFI = 1.00, TLI = .99). See Figure 4.1 for direct and indirect effects.

Measurement Invariance

Table 4.4 presents the model fit indices for baseline models, configural and scalar measurement invariance. The female and early adolescent baseline models showed good model fit. However, the RMSEA was less satisfactory for males and mid adolescents. Model fit indices indicated full configural measurement invariance for gender and age group. Full scalar measurement invariance was not found, however, acceptable model fit indices indicated the possibility of partial scalar measurement invariance. MIs indicated that relaxing the factor loading and threshold of item eight '*In the future, I would be willing to continue a relationship with a friend who developed a mental health problem'* in the gender model would improve fit. After relaxing these parameters, partial scalar invariance was achieved. Similarly, relaxing the factor loadings and thresholds for items five '*In the future, I would be willing to live with someone with a mental health problem'* and seven '*In the future, I would be willing to live nearby to someone with a mental health problem'* achieved partial scalar invariance in the age group model.

Table 4.4 *Multi-group CFA for gender and age group*

Models	χ^2	df	RMSEA [90% CI]	CFI	TLI	χ^2 diff (df)
Gender						
Baseline Males	70.27**	19	.08 [.06 - .10]	.99	.99	n/a
Baseline Females	30.09*	19	.03 [.00 - .05]	1.00	1.00	n/a
Configural	98.22**	38	.06 [.04 - .07]	1.00	1.00	n/a
Scalar	124.49**	54	.05 [.04 - .06]	1.00	1.00	30.62(16)*
Scalar – RIBS8	110.48**	50	.05 [.04 - .06]	1.00	1.00	17.05(12)
Age group						
Baseline Early Adolescents	30.10*	19	.04 [.00 - .07]	1.00	1.00	n/a
Baseline Mid Adolescents	74.97**	19	.07 [.05 - .08]	1.00	.99	n/a
Configural	96.13**	38	.05 [.04 - .07]	1.00	1.00	n/a
Scalar	138.91**	54	.06 [.04 - .07]	1.00	1.00	46.13(16)**
Scalar – RIBS5, RIBS7	98.54**	46	.05 [.03 - .06]	1.00	1.00	9.04(8)

Note: CFA = confirmatory factor analysis; RMSEA = Root Mean Square Error of Estimation; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index, RIBS5, RIBS7 and RIBS8 refer to the items for which factor loadings and thresholds were released to achieve partial scalar invariance, ** p<.001, * p≤.05.

4.5   Discussion

This psychometric validation study assessed the quality of RIBS for measuring self-reported and intended discriminatory behaviour in an adolescent sample. We conclude that RIBS is a valid measure of self-reported and intended discriminatory behaviour for an adolescent sample. However, caution should be taken when using the scale with adolescents under the age of 14 with regards to its readability, and when exploring mean differences for gender and age group.

The full scale (items 1-8) was found to have an average reading age of approximately 14 years old, equivalent to US grade eight. All readability scores were above the youngest participants (11 years old), with only two items in the 11-year old range (11.12 and 11.21) and two in the 12-year old range (both 12.72). Other items range from 13.01-16.91 years, exceeding the recommended reading age for adult measures (12 years old) (Terwee et al., 2007). Of particular concern, was the introductory text which exceeded an average reading age of 19. Given the variation in reading ability in any given classroom, and that a proportion of young people will fall below the reading age for their grade, caution must be taken in terms of content validity and respondent burden for adolescents. One possible solution is to adapt the introductory text, simplifying language and content (e.g. *'mental' 'problems'* and *'healthcare'*).

Given the reference to *'people who have mental health problems'* in all items, simplifying the introductory text could improve the readability of the whole scale. Furthermore, the reference to service use here undoubtedly influences the perceived level of mental distress. Evidence suggests that stigma is a *"matter of degree"* (Link et al., 2004, p.513) influenced by labels and perceived severity (Jorm & Griffiths, 2008). Mental health related terms such as 'mental health problem', 'mental distress' and 'mental illness' can produce different stigma responses due to common associations and misconceptions. For example, schizophrenia is more likely to be associated with the term 'mental illness' than depression

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(Evans-Lacko et al., 2010). Leighton (2009) reported inconsistencies in young people's understanding of mental health related terms, in part due to the lack of professional clarity, leading to increased subjectivity in their meaning.

A minority of the sample reported living and working with, living nearby, and having a close friend experiencing a mental health problem. Early-adolescent participants were less likely than mid adolescents to report having lived with someone experiencing a mental health problem. Furthermore, males were less likely than females to report having a close friend experiencing a mental health problem. In contrast to reported behaviours, ceiling effects were found at a scale and item level for intended behaviours, indicative of positive attitudes among participants in terms of contact willingness across the four different contexts.

These ceiling effects support findings from previous adult literature (Evans-Lacko et al., 2011). For example, more normally distributed responses were found for items describing closer social contact (e.g. living with someone) compared with items describing more distant relationships (e.g. living nearby). Responses were skewed towards agreement for item eight despite high levels of social contact, indicating that the majority of participants would *'continue a relationship with a friend who developed a mental health problem'.* As suggested by Evans-Lacko et al. (2011) responses to item eight may be mediated by higher reports of having a friend experiencing a mental health problem in item four. Despite showing more normally distributed results overall, similar patterns of responses were previously found in Japanese and Italian adult validation studies (Pingani et al., 2016; Yamaguchi et al., 2014). Overall, increased levels of agreement for intended behaviours involving less social contact, and lower levels of reported behaviours, indicate more social desirability for items describing hypothetically more distant relationships. The difference in responses between the reported and intended behaviour items is also further support that

hypothetical behaviour may not always translate into actual behaviour (Eisenberg et al., 2012; Thornicroft et al., 2007).

Results from the two-factor CFA showed good model fit, confirming the previously identified factors (Pingani et al., 2016; Yamaguchi et al., 2014). Chi-square is highly sensitive to sample size, in which a large sample size is more likely to produce a significant result for a small effect (Vandenberg, 2006). Therefore, despite a significant chi-square value, model fit was perceived to be good based on the remaining indices and high factor loadings. Furthermore, a high level of internal consistency was found for the intended behaviour scale (.94). This value was higher than previous assessments in adult (.85) (Evans-Lacko et al., 2011) and adolescent research (.86) (Chisholm et al., 2016).

A significant but moderate positive correlation was found between the intended behaviour scale and MAKS, supporting the relationship between stigma-related knowledge and attitudes (Thornicroft et al., 2007). However, contrary to our predictions, there was no significant correlation between intended behaviour and help-seeking intentions measured by the GHSQ. Previous literature suggests that stigmatizing attitudes reduce the likelihood of seeking help (Gulliver et al., 2010), in particular, internalised stigma and stigma relating to treatment (Clement et al., 2015). Given that RIBS is a measure of self-reported and intended discriminatory behaviour, revealing attitudes towards others, it may be more likely to relate to *providing* support as opposed to seeking it.

Gender and age group had significant effects on the intended behaviour latent factor, with females and early adolescents reporting more positive intended behaviours overall. The former finding supports previous literature that suggests that males report more stigmatising attitudes than females (Williams & Pow, 2007; Yoshioka et al., 2014). The more negative intended behaviours reported by mid adolescents add to complex age trends found in previous stigma research. Jorm and Wright (2008) found that social distance reduced with age, however, their study also revealed that increased age predicted higher

levels of perceived stigma and the belief that people experiencing mental health difficulties are dangerous and unpredictable, which could in turn influence intended behaviours. In the current study, it is possible that more positive intended behaviours reported by the early adolescents could be a result of greater social desirability or, given the reading age, reduced validity due to a lack of comprehension.

Multi-group CFA revealed full configural measurement invariance for gender and age group, indicating the same item-factor structure i.e. 4 items loaded onto each latent factor, across groups. However, only partial scalar measurement invariance was achieved for gender and age group. Non-invariance across groups was found for a small number of item factor loadings and thresholds; however, these did not relate to overall increased levels of intended behaviours in females and early adolescents. Given that full scalar invariance was not achieved, it could be recommended that direct comparisons of group means might not be meaningful. In particular, it has been shown that invariance at the scalar level has large effects on the accuracy of mean-level analyses (Steinmetz, 2013). However, many researchers are managing group non-invariance by relaxing constraints on parameters identified in the modification indices. More research is needed to fully understand the statistical consequences of accepting partial invariance (Putnick & Bornstein, 2016). However, the utilisation of measurement invariance analyses in the current study contributes to the growing body of literature that recognises the importance of assessing the uniformity of the psychometric properties of a construct across groups before conducting comparisons of means.

Though the sample size in the current study is large, it is worth noting that limited demographic information was available for the participants. We therefore cannot make any statements about representativeness in terms of ethnicity and socio-economic factors compared to the English population. Future research should aim to collect data on these variables to study differential item functioning. Furthermore, the convenience sample was

limited to early and mid adolescents, therefore future research should consider expanding the sample to include adolescents aged 16 years and older and compare item functioning. Follow up data from two intervention feasibility trials were utilized in this study; however, RIBS was not the proposed primary outcome for interventions.

Readability formulae were used in the current study to provide an additional assessment of the appropriateness of RIBS for adolescents. Despite the use of multiple indices, the authors acknowledge that when taken alone, readability assessments can lack reliability, particularly when applied to short extracts of text (Oakland & Lane, 2004). The high readability scores in the current study should therefore be taken with some caution, particularly given the results from other assessments of psychometric quality. Future research should use qualitative approaches such as focus groups and cognitive interviewing to explore adolescents' experiences and interpretation of RIBS, to reveal any issues with readability and inform future revisions to the scale. For example, accounting for developmental stage by changing '*work*' to '*school*' in items 2 and 6.

Convergent validity was assessed by correlating the intended behaviour scale with MAKS, an alternative stigma measure aiming to assess stigma-related stereotype knowledge. MAKS was only found to have moderate levels of internal consistency in the current sample, suggesting that it may not function well as a unidimensional scale in this age group. Future research should conduct a full assessment of the psychometric properties of MAKS with an adolescent sample. It was also not possible in the current study to assess all possible criteria for assessing the psychometric quality of RIBS. For example, data from only one time point were available and therefore no assessment of test-retest reliability was conducted.

The current study concludes that RIBS is a valid measure for adolescents aged 14+ when the two-factor structure of reported and intended discriminatory behaviours is utilised. However, the introductory text is not appropriate for this age group due to its high reading

age and would benefit from being simplified. Researchers should anticipate discrepancies between the reported and intended behaviour response distributions, and test for possible ceiling effects in their sample. Gender and age group measurement invariance should also be assessed prior to mean difference testing on the intended behaviour scale.

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5   CHAPTER FIVE: EDUCATORS' PERCEIVED MENTAL HEALTH LITERACY AND CAPACITY TO SUPPORT STUDENTS' MENTAL HEALTH: ASSOCIATIONS WITH SCHOOL-LEVEL CHARACTERISTICS AND PROVISION (STUDY THREE)

Mansfield, R., Humphrey, N., & Patalay, P. (under review). Educators' perceived mental health literacy and capacity to support students' mental health: associations with school-level characteristics and provision.

Study Three is the version of the paper submitted for publication, reformatted for consistency across the thesis. This paper is currently under review and therefore may be subject to changes based on reviewer feedback. Appendix Three includes all supplementary materials for Study Three.

5.1   Abstract

Conceptual frameworks for school-based, preventive interventions recognise that educators' capacity is, in part, dependent on school-level characteristics. This study aimed to 1) examine the factor structure and internal consistency of the *Mental Health Literacy and Capacity Survey for Educators* (MHLCSE) and assess responses in relation to supporting students' mental health; 2) describe schools' mental health provision in terms of designated roles, training offered, and perceived barriers; 3) investigate variance in MHLCSE outcomes explained by schools; and, 4) explore school-level predictors of educators' perceived MHL and capacity after controlling for individual-level characteristics. A multi-level, cross-sectional design involving 710 educators across 248 schools in England was used, and secondary analyses of baseline data collected as part of the Education for Wellbeing Programme were conducted. Mental health provision data were available for 206 schools. 95% percent of schools offered training to some staff, and 71% had a designated mental health lead. Secondary schools offered significantly more training than primary schools. Significant barriers included lack of capacity in Child and Adolescent Mental Health Services (CAMHS) and within school, and communication challenges between agencies. The amount of training offered by schools significantly predicted educators' awareness and knowledge of mental health issues, treatments and services, legislation and processes for supporting students' mental health and comfort providing active support, with increased training predicting higher scores. However, little variance was explained by schools (1.7-12.1%) and school-level variables (0.7-1.2%). Results are discussed in relation to current mental health and education policy in England.

5.2   Introduction

Schools have long been recognised as strategic sites for developing the social and emotional competencies of children and young people, delivering evidence-based mental health interventions, and identifying students at risk (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Fazel, Hoagwood, Stephan, & Ford, 2014; Lendrum, Humphrey, & Wigelsworth, 2013). However, school-based mental health provision varies considerably by country and school type (Patalay et al., 2016). Despite many schools understanding their role in promoting mental health and identifying, supporting and referring students in need, commonly reported barriers to delivering mental health provision include a lack of national policy, guidance, and funding and limited staff capacity (Department for Education, 2017; Patalay et al., 2016). To date, school-based mental health provision in England has been more reactive, focused on targeted approaches for students already identified as experiencing difficulties (Patalay et al., 2017). Provision is often not evidence-based, and schools lack consultation and support from external mental health professionals (Sharpe et al., 2016; Vostanis, Humphrey, Fitzgerald, Deighton, & Wolpert, 2013).

A multi-level, multi-sectorial approach to promoting child and adolescent mental health, and improving access to services, is increasingly recognised as an international priority (Fazel et al., 2014; O'Connell, Boat, & Warner, 2009; World Health Organisation, 2013). In England, recent policy directives have mandated an increased role of schools to promote and protect child and adolescent mental health (Education and Health Committees, 2017). These include statutory guidelines for the introduction of compulsory mental health education by late 2020 (Department for Education, 2019a). In addition, it was recommended that all schools appoint a designated mental health lead (Department of Health and Education, 2017). This individual should oversee a whole school approach to mental health and wellbeing and be the identified link for external mental health services.

The approaches set out by the government have been heavily criticised for increasing the pressure on schools without the commitment of necessary funding (Education and Health and Social Care Committees, 2018).

From an ecological perspective, teachers are well placed to support children and young people's mental health (Atkins, Hoagwood, Kutash, & Seidman, 2010), and are increasingly undertaking 'health work' (Rossi, Pavey, Macdonald, & McCuaig, 2016). When asked whether schools should play a role in supporting the mental health needs of their students, and providing mental health education, 90% of teachers agreed that they should (Graham Phelps, Maddison, & Fitzgerald, 2011; Reinke, Stormont, Herman, Puri, & Goel, 2011). However, despite 93% of teachers feeling concerned about their students' mental health, 85% felt they required further mental health training (Moon, Williford, & Mendenhall, 2017). More recent qualitative research conducted in the United Kingdom (UK) showed that teachers perceived a lack of clarity in their role and wanted interactive and practical training led by experts (Shelemy et al. 2019a, 2019b). The number of teacher-led mental health education interventions is increasing (Whitley, Smith, & Vaillancourt, 2013), and for some, educator MHL is the key ingredient for improved student outcomes (e.g., Kutcher, Wei, & Morgan, 2015; Miller et al., 2019). Despite an increased responsibility to implement school-based mental health programmes, there is limited evidence relating to educators' level of understanding and comfort with mental health content, and what training and support is most effective (Whitley et al., 2013).

When assessing baseline scores of teachers' mental health first aid skills, Jorm, Kitchener, Sawyer, Scales and Cvetkovski (2010) found low levels of confidence in helping students (<21%), even though over 80% of teachers could correctly recognise depression symptoms. Despite findings from across studies indicating that most teachers can recognise symptoms of mental disorders, awareness of community services and the ability to act on their concerns was lacking (Loades & Mastroyannopoulou, 2010). Recent reviews of

mental health training programmes for secondary school teachers suggest that more evidence is needed to understand ways to improve teachers' helping behaviours and students' mental health outcomes (Anderson et al., 2019; Booth et al., 2017).

Previous research suggests that time constraints are a key barrier to providing help to students (Ekornes, 2017), but that training, clear roles, and support from senior and pastoral teams can help teachers effectively support young people's mental health and wellbeing (Mazzer & Rickwood, 2015). These findings support conceptual frameworks for school-based, preventive interventions that recognise that teachers' capacity is, in part, dependent on school-level characteristics and resources, and macro-level factors such as policy and capital (Domitrovich et al., 2008). Individual factors previously found to predict perceived levels of mental health related capabilities include educator gender and year group taught; however, years in practice was not found to be a significant predictor (Askell-Williams & Cefai, 2014).

The interaction between individual and school-level factors is highlighted in the multi-level, multi-agency approach adopted in the School Mental Health ASSIST programme in Ontario, Canada (Fortier, Lalonde, Venesoen, Legwegoh, & Short, 2017). The approach presents teachers' responsibilities as tiered, from the promotion of positive mental health in the classroom, to identification and referral, through to bridging the gap between school support and external agencies. Although teachers may not always be the individual referring a student, awareness and knowledge of the processes for referrals and available interventions can help teachers support these students in the classroom.

Fortier et al. (2017) defined mental health literacy as *"knowledge, understanding, skill and confidence related to mental health and wellbeing"* (p.69) in terms of creating mentally healthy classroom environments by reducing stigma, identifying students in need, supporting them through pathways of care and delivering mental health content. With the aim of revealing which mental health initiatives to prioritise, the Mental Health Literacy

and Capacity Survey for Educators (MHLCSE) was developed to assess teachers' self-reported awareness, knowledge and comfort relating to supporting students' mental health. A case study of educators in the Thames Valley school district in Ontario, Canada, revealed lower average scores for items relating to steps for accessing local community support and legislation relating to mental health issues. Fortier et al. (2017) did not report on the psychometric properties of the MHLCSE and suggested that more psychometric work is needed to ensure its reliability and validity. In addition, they recommended that links between training provision and capacity should be modelled to better understand what school-level initiatives can help support educators.

There are currently no studies that model both individual and school-level predictors of educators' perceived capacity to support students' mental health. This is important given that implementation of school-based, mental health interventions relies, to an extent, on educators' capabilities. In light of this, the aims of the current study were to 1) examine the factor structure and internal consistency of the MHLCSE and assess responses in relation to supporting students' mental health; 2) describe schools' mental health provision in terms of designated roles, training offered to staff and perceived barriers to implementation of said provision; 3) investigate variance in MHLCSE outcomes explained by schools; and, 4) explore school-level predictors of educators' perceived MHL and capacity to support students' mental health after controlling for individual-level characteristics.

5.3   Method

Design

The current study conducted secondary analyses on baseline data collected as part of the Department for Education funded, Education for Wellbeing Programme (Hayes et al., 2019a; Hayes et al., 2019b). The design of the current study was cross-sectional and multi-level (educators within schools).

Procedure

School recruitment began in March 2018 across England. The project was advertised via existing school networks, education publications, Public Health England, the National Institute for Health Research, local authorities, school commissioners, and on social media platforms. Schools expressed interest via an online form and provided the name and email address of a self-selected key contact. A survey of mental health provision was completed online by the key contact between July and December 2018. An online survey including the MHLCSE was sent to the staff identified as responsible for the delivery of interventions, if allocated, between September and November 2018 prior to any intervention training.

Participants

A total of N = 710 educators from N = 248 schools completed the MHLCSE. Educators' demographic information was only collected in the Education for Wellbeing Programme's follow up surveys. We therefore extracted this information by using unique identifiers and merging the data with the baseline MHLCSE responses. Between 24.9-35.4% of demographic data were therefore missing from the sample across items due to participant attrition at follow up. Gender information was available for N = 528 (74.4%) educators, of which n = 415 (78.6%) were female. No educators identified as non-binary, transgender or any other gender identity in the current study. The gender variable was therefore coded as binary (male/female) based on the data. Age was reported by N = 460 (64.8%) of the sample with a mean age of 37.65(SD = 9.86), ranging between 22-62 years. A total of N = 459 (64.6%) educators reported their ethnicity; the majority of the sample were White (n = 429, 93.5%). This was slightly higher than the % reported in the 2018 school workforce report (91.1%) (Department for Education, 2019b). The number of years in practice was reported by N = 533 (75.1%) of the sample. On average educators had been practicing for 10.92 (SD = 8.13) years, ranging between 1-38 years.

Of the N = 248 schools for which educator level data were available, a total of N = 218 key contacts consented to completing a survey of school mental health provision. Twelve schools had completely missing data leaving a total sample of N = 206 schools. Of the contacts that completed the survey, n = 183 (88.8%) were female; the majority were White British (n = 193, 93.7%). Just under half were in senior leadership roles (n = 100, 48.5%) and a further n = 13 (6.3%) were in middle leadership roles. Sixty-eight (33.0%) were in specialist lead roles (e.g. Special Educational Needs Coordinator (SENCO)). Finally, n = 14 (6.8%) reported being in a teaching role only, and n = 11 (5.3%) were teaching support staff (e.g. teaching assistant). Of the N = 206 schools that completed the survey, the majority were mixed sex (n = 197, 95.6%), n = 131 (63.6%) were primary schools (years 1-6, ages 5-11) and n = 75 (36.4%) were secondary schools (years 7-11, ages 12-16).

Power

Power was calculated for a single-level regression with 8 explanatory variables to detect a small effect ($F^2 = .03$) with standard alpha level = .05 and power = .80. This calculation indicated that a minimum sample size of 509 educators was required. Next, the design effect was calculated to account for the multi-level design using the following equation: $1 + p(m-1)$ where p = Intraclass Correlation Coefficient (ICC) and m = average cluster size. In the current study, the sub-scales of the MHLCSE had the following ICC values: 'awareness and knowledge of mental health issues' = .017, 'treatments and services' = .045, 'legislation and processes' = .121, and 'comfort providing active support' = .110). The design effect was calculated using the average ICC across the four sub-scales (.073) and the average cluster size (2.86). The design effect was calculated at 1.14. The effective sample size (ESS) was the total sample divided by the design effect, thus 710/1.14 was equal to 623 educators. This indicates that when accounting for the multi-level design, the current study is powered to detect effects <.03.

Measures

Perceived MHL and Capacity to Support Students' Mental Health (Individual Level)

The MHLCSE was designed to have three sub-scales: awareness (items 1-5), knowledge (items 6-9) and comfort (items 10-13). Educators respond using 5-point Likert scales where 1 = *'not at all aware', 'not knowledgeable'* or *'not comfortable'* and 5 = *'very aware', 'very knowledgeable'* or *'very comfortable'* respectively. The authors of the scale did not conduct any psychometric assessments, and recommend tests of the scale's reliability and validity prior to use (Fortier et al., 2017).

Mental Health Provision (School Level)

The mental health provision survey was developed for the Education for Wellbeing Programme, but was informed by previous research conducted in England (e.g. Day, Blades, Spence, & Ronicle, 2018; Department for Education, 2017). The mental health provision survey aimed to understand schools' staffing and training relating to students' mental health, universal and targeted mental health provision, and barriers to providing effective mental health support. The current study analysed data relating to staffing, training and perceived barriers. Specifically, '*Does your school have a designated lead for mental health?*' ('*yes*'/'*no*') was coded as 0 = '*no designated mental health lead*' and 1 = '*designated mental health lead*'. A conditional item was then presented if schools responded '*yes*' which asked '*What is this mental health lead responsible for?*'. Multiple responsibilities could be selected from the following options: '*supporting individual pupils*', '*teaching pupils about mental health and wellbeing*', '*training staff*', '*liaising with specialist mental health services*', '*coordinating and developing mental health provision in the school*', and '*none of these*'.

Schools were also asked to indicate which, if any, members of staff were offered training about how to support students' mental health and wellbeing using the following response

options: '*all staff*', '*all teaching staff*', '*staff with specific responsibility for mental health*', '*no staff are offered training*' and '*other*'. Two mutually exclusive variables were computed. First, '*all staff*' and '*all teaching staff*' were combined to compute a new variable '*all teaching staff*'. For the purposes of this study, if all teaching staff received training, it was not important to differentiate between schools that trained all staff vs. only the teaching staff. Next, if schools did not indicate '*yes*' for '*all teaching staff*' the remaining responses were coded by combining both '*staff with specific responsibility for mental health*' and '*other*' to compute a variable for '*selected staff only*'. These variables were dummy coded so that a 1 indicated that the condition had been satisfied.

Schools were also asked to report, in the last two years, what staff training they had offered relating to students' mental health and wellbeing and who provided the training. A matrix was presented with a number of different training topics down the side e.g. '*legislation related to young people's mental health difficulties*' and '*mental health first aid*', along with different training providers along the top e.g. '*voluntary organisation*' and '*local authority*'. Given that schools could select as many options as they wanted in the matrix, the total number of selected training options was summed to give a cumulative total score for training provision. Schools who selected no options received a score of 0, the highest possible score, if schools had selected every training topic delivered by all training providers, was 84.

Potential barriers to providing effective mental health support within school were measured using 8-items. Items were based on those previously used in the 2015, NHS England and the Department for Education Mental Health Services and Schools Link Pilots to identify the significance of potential barriers to providing effective mental health support (Day et al., 2018). Participants responded using 5-point Likert scales where 1 = '*very significant*', 4 = '*not at all significant*' and 5 = '*don't know*', scores range from 8-32. Responses were reversed so that a high score indicated more significant barriers. Given the

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low number of *'don't know'* responses to items (0.0-6.6%), this response was coded as 1 and combined with the response *'not at all significant'*. Cronbach's alpha was calculated at .75 and McDonald's omega at .77.

Analysis Strategy

MHLCSE Factor Structure

Given that the original authors of the MHLCSE proposed three sub scales, namely, awareness, knowledge, and comfort, a confirmatory factor analysis (CFA) was conducted first to test the proposed three-factor structure. Next, the factor structure of the MHLCSE was examined by conducting an exploratory factor analysis (EFA) with one to four factors to identify the best structure based on these data. Due to categorical item responses, a robust least squares (WLSMV) estimator was used (Li, 2016). School clustering was accounted for in all models. Good model fit was assessed using the following criteria: an RMSEA value of <.06 and CFI and TLI values >.95 (Hu & Bentler, 1999). Due to the ordinal response format, and to ensure better estimates when violating assumptions of tau-equivalence and normality, McDonald's ω was calculated in addition to Cronbach's α (Trizano-Hermosilla & Alvarado, 2016) when assessing internal consistency of confirmed sub-scales. An average score across items was calculated for each sub-scale identified. All of the above analyses were conducted in Mplus version 8.1.

Mental Health Provision

The percentage of schools with a designated mental health lead was calculated and compared across primary and secondary schools. Similarly, the proportion of schools offering training to all teaching staff versus selected staff only was computed. An assessment of the percentage of schools offering training on different topics, by different providers, was conducted and a cumulative training total score was summed to provide a general sense of the level and breadth of opportunity offered to staff to develop their

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awareness and knowledge. An independent samples t-test was used to explore the difference between primary and secondary school training provision. Furthermore, the eight items relating to barriers to providing effective mental health provision were summed to give a total barriers score.

Missing Data Analysis

A breakdown of missing data across all variables and complete cases for baseline, individual and full models are included in Table 5.1.

Table 5.1 *Breakdown of missing data across variables and complete cases for baseline, individual level and full models including both individual and school-level predictors, number of schools and average cluster size*

Models and Predictor Variables	Missing Data	Complete Cases	Number of Schools	Average Cluster Size
Baseline Models	0(0.0)	710(100.0)	248	2.86
Individual-level Models	182(25.6)	528(74.4)	230	2.30
Gender	182(25.6)	528(74.4)	-	-
Years in Practice	177(24.9)	533(75.1)	-	-
Full Models	294(41.4)	416(58.6)	175	2.38
Designated MH Lead	119(16.8)	591(83.2)	-	-
Training: selected staff only	123(17.3)	587(82.7)	-	-
Training: all teaching staff	123(17.3)	587(82.7)	-	-
Mean Training Total	123(17.3)	587(82.7)	-	-
Mean Barriers Total	170(23.9)	540(76.1)	-	-

Note. Missing data and complete cases presented as count(%)

Given the amount of missing data for each predictor variable (>5%), complete case analysis was ruled out due to potentially biased estimates and reduced power. Instead, multiple imputation (MI) using chained equations was conducted accounting for school clustering in Stata version 14 prior to running the multi-level models. MI computes multiple predictions for missing values and therefore accounts for uncertainty in imputations resulting in more accurate standard errors (Azur, Stuart, Frangakis, & Leaf, 2012).

Multi-level Models of Individual and School-level Predictors of MHLCSE outcomes

Multi-level models for the four MHLCSE outcome variables estimated the proportion of variance explained by schools before including individual and school-level variables. Next, models were fitted including only the individual-level explanatory variables. The final full models fitted both individual and school-level explanatory variables. Model fit was compared across models by comparing -2*log likelihood values, where a lower value indicates better model fit. Coefficients at each level were compared across models, and the proportion of variance explained by adding explanatory variables was calculated. -2*log likelihood and ICC values were computed for each imputed data set and then averaged.

5.4 Results

MHLCSE Factor Structure and Response Distribution

A CFA for three-latent factors (awareness, knowledge and comfort) revealed an inadequate fit (N = 710, χ^2 = 896.76; df = 62; p < .001; RMSEA [90% CI] = .14 [.13 - .15], CFI = .95 TLI = .94). All factor loadings were found to be significant with p<.001; however, latent factors were strongly correlated (r = .66 - .83), and modification indices suggested strong loadings across factors. A clustered EFA with WLSMV estimator was therefore conducted with one to four factors to assess the best structure based on these data (see Tables 5.2 for EFA model fit indices and 5.3 for rotated factor loadings and measures of sub-scale

internal consistency). The EFA revealed that a four-factor structure produced the best model fit. Factor one related to *awareness and knowledge of mental health issues*, factor two *treatments and services*, factor three *legislation and processes for supporting students' mental health* and factor four, *comfort providing active support* (see Figure 5.1 for a model diagram including factor loadings (standard errors), correlations (standard errors) between factors, and residual errors). All items primarily loaded onto one factor each with the exception of item 13 '*accessing school and system services for students with mental health issues*', which loaded onto two factors. This item loaded more strongly onto factor four as it was associated with comfort providing active support to students. The findings from the EFA provided further evidence supporting our conclusion from the initial CFA that a three-factor structure did not provide a good fit to our data. On average, educators reported higher levels of comfort providing active support to students ($M = 3.52$, $SD = .87$), and better awareness and knowledge relating to mental health issues ($M = 3.61$, $SD = .69$) when compared with treatments and services ($M = 2.98$, $SD = .88$), and legislation and processes for supporting students' mental health ($M = 3.22$, $SD = .87$). See Table 5.4 for the response distribution by item.

Table 5.2 Model fit indices for one to four factor solutions based on the clustered EFA using WLSMV estimator (N = 710)

Model	χ^2(df)	RMSEA [90% CI]	CFI	TLI
One-factor	1943.38(65)**	.20[.19-.21]	.90	.88
Two-factor	1076.27(53)**	.17[.16-.17]	.94	.92
Three-factor	700.56(42)**	.15[.14-.16]	.96	.93
Four-factor	216.67(32)**	.09[.08-.10]	.99	.98

Note. **p<.001.

Table 5.3 *Rotated factor loadings for a four-factor solution (based on the clustered EFA using WLSMV estimator) along with measures of sub-scale internal consistency (N = 710)*

Item	1 Awareness and Knowledge of MHI	2 Treatments and Services	3 Legislation and Processes	4 Comfort Providing Active Support
1. The range of mental health issues that children and youth experience during the school years.	.81*			
2. The risk factors and causes of student mental health issues.	.81*			
3. The types of treatments available to help students with mental health issues (e.g. counselling).		.44*		
4. The local community services for treating students with mental health issues (e.g. do you know who to call?).		.97*		
5. The steps necessary to access local community services for mental health issues.		.76*		
6. About the signs and symptoms of student mental health issues.	.50*			
7. About appropriate actions to take to support student mental health at school.			.71*	
8. About legislation related to mental health issues (confidentiality, consent to treatment, etc.).			.67*	
9. About school system services and resources for helping students with mental health issues.			.84*	
10. Talking with students about mental health.				.88*
11. Talking with parents about their child's mental health.				.70*
12. Providing support to students with mental health issues.				.78*
13. Accessing school and system services for students with mental health issues.				.55*
Cronbach's alpha (α)	.89	.89	.88	.91
McDonald's omega (ω)	.89	.90	.88	.92

Note. * p<.05, MHI = mental health issues

Figure 5.1 *The four-factor structure for the MHLCSE based on the clustered EFA using*

WLSMV estimator
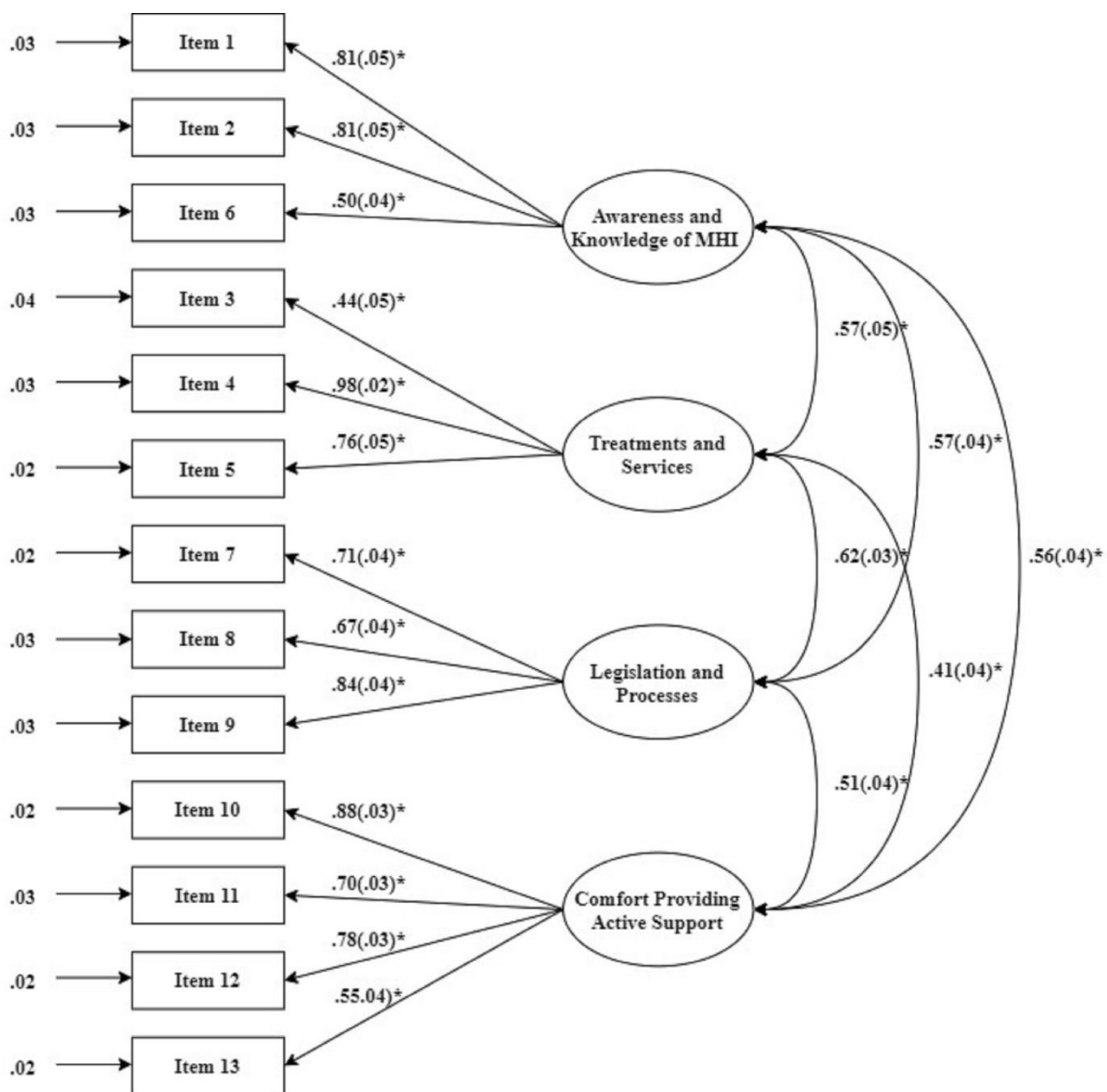
Note. The model includes factor loadings (standard errors), correlations (standard errors) between factors and residual errors; * p<.05.

Table 5.4 *Item response distributions and average sub-scale scores on the MHLCSE (N = 710)*

Item	1 (not at all)	2	3	4	5 (very)
1. The range of mental health issues that children and youth experience during the school years.	3(0.4)	16(2.3)	272(38.3)	297(41.8)	122(17.2)
2. The risk factors and causes of student mental health issues.	1(0.1)	37(5.2)	264(37.2)	307(43.2)	101(14.2)
3. The types of treatments available to help students with mental health issues (e.g. counselling).	8(1.1)	108(15.2)	314(44.2)	212(29.9)	68(9.6)
4. The local community services for treating students with mental health issues (e.g. do you know who to call?).	55(7.7)	205(28.9)	264(37.2)	135(19.0)	51(7.2)
5. The steps necessary to access local community services for mental health issues.	79(11.1)	223(31.4)	261(36.8)	102(14.4)	45(6.3)
6. About the signs and symptoms of student mental health issues.	5(0.7)	62(8.7)	316(44.5)	268(37.7)	59(8.3)
7. About appropriate actions to take to support student mental health at school.	11(1.5)	84(11.8)	266(37.5)	261(36.8)	88(12.4)
8. About legislation related to mental health issues (confidentiality, consent to treatment, etc.).	70(9.9)	171(24.1)	258(36.3)	156(22.0)	55(7.7)
9. About school system services and resources for helping students with mental health issues.	26(3.7)	131(18.5)	263(37.0)	207(29.2)	83(11.7)
10. Talking with students about mental health.	11(1.5)	37(5.2)	189(26.6)	263(37.0)	210(29.6)
11. Talking with parents about their child's mental health.	28(3.9)	134(18.9)	256(36.1)	201(28.3)	91(12.8)
12. Providing support to students with mental health issues.	18(2.5)	92(13.0)	233(32.8)	232(32.7)	135(19.0)
13. Accessing school and system services for students with mental health issues.	17(2.4)	119(16.8)	249(35.1)	207(29.2)	118(16.6)

Sub-scale	MHI	TS	LP	AS
Possible range of scores	(3-15)	(3-15)	(3-15)	(4-20)
Total sum, minimum – maximum, mean(±SD)	4-15, 10.84(±2.06)	3-15, 8.94(±2.63)	3-15, 9.67(±2.62)	4-20, 14.09(±3.47)
Average, minimum – maximum, mean(±SD)	1-5, 3.61(±.69)	1-5, 2.98(±.88)	1-5, 3.22(±.87)	1-5, 3.52(±.87)

Note. item response distributions are presented as count(%), 1 = *not at all aware, knowledgeable* or *comfortable*; 5 = *very aware, knowledgeable* or *comfortable*, sub-scales: MHI – awareness and knowledge of mental health issues; TS = treatments and services; LP = legislation and processes; AS = comfort providing active support.

Mental Health Provision

Out of N = 206 schools, n = 146 (70.9%) reported that they had a designated mental health lead, with secondary schools proportionately more likely to report this than primary schools (secondary n = 59, 78.7%, primary n = 87, 66.4%). Of the schools with a designated mental health lead, the following roles and responsibilities were selected (count, %): supporting individual students (n = 91, 44.2%), teaching students about mental health and wellbeing (n = 72, 35.0%), training staff (n = 93, 45.1%), liaising with specialist mental health services (n = 96, 46.6%), and coordinating and developing mental health provision in the school (n = 128, 62.1%). When asked which staff, if any, are offered training about how to support students' mental health and wellbeing, n = 92 (44.7%) schools reported that '*all teaching staff*' are offered training. One hundred and three (50.0%) schools reported that only selected members of staff are offered training, and only n = 11 (5.3%) schools reported that no staff are offered training. The mean training total was M = 8.81, SD = 7.67, with significantly higher training scores reported by secondary schools (M = 10.93, SD = 8.76) than primary schools (M = 7.59, SD = 6.71); $t(204) = -3.08$, $p = .002$. See Table 5.5 for frequency and percentage of schools offering training across different topics by different providers.

Table 5.5 *Frequency and percentage of schools offering training across different topics by different providers (N = 206)*

	Provided by a member of staff within the school (e.g. Mental Health Lead, SENCO)	Provided by a higher education institution (e.g. University)	Provided by local NHS Child and Adolescent Mental Health Services (CAMHS)	Provided by a voluntary organisation	Provided by an independent contractor	Provided by Local Authority	Online course (e.g. MindEd)
Understanding the range of mental health difficulties that children and youth experience during the school years	73(35.4)	3(1.5)	36(17.5)	26(12.6)	27(13.1)	37(18.0)	15(7.3)
Signs and symptoms of student mental health difficulties	67(32.5)	3(1.5)	33(16.0)	24(11.7)	26(12.6)	37(18.0)	15(7.3)
How to identify mental health needs among pupils and recognise specific mental health difficulties	56(27.2)	4(1.9)	26(12.6)	22(10.7)	23(11.2)	30(14.6)	10(4.9)
Risk factors and causes of student mental health difficulties	61(29.6)	3(1.5)	27(13.1)	16(7.8)	28(13.6)	33(16.0)	11(5.3)
The types of interventions available to help students with mental health difficulties	67(32.5)	3(1.5)	34(16.5)	15(7.3)	22(10.7)	41(19.9)	9(4.4)
Legislation related to young peoples' mental health difficulties (confidentiality, consent to treatment, etc.)	31(15.0)	5(2.4)	9(4.4)	8(3.9)	15(7.3)	20(9.7)	7(3.4)
Understanding school systems and resources for students with mental health difficulties	93(45.1)	0(0.0)	9(4.4)	10(4.9)	13(6.3)	22(10.7)	3(1.5)
Understanding local community services for students with mental health difficulties	40(19.4)	0(0.0)	20(9.7)	10(4.9)	7(3.4)	32(15.5)	4(1.9)
Understanding appropriate referral actions and steps to accessing local community services	62(30.1)	0(0.0)	21(10.2)	6(2.9)	10(4.9)	28(13.6)	3(1.5)
Mental health first aid	28(13.6)	0(0.0)	15(7.3)	18(8.7)	23(11.2)	33(16.0)	6(2.9)
Stigma awareness and promoting stigma reduction	64(31.1)	1(0.5)	7(3.4)	16(7.8)	12(5.8)	16(7.8)	6(2.9)
Knowledge of how to obtain and maintain mental health	58(28.2)	0(0.0)	10(4.9)	16(7.8)	11(5.3)	18(8.7)	5(2.4)
None	23(11.2)	22(10.7)	18(8.7)	22(10.7)	20(9.7)	19(9.2)	20(9.7)

Note. results are presented as count(%)

Across all training topics, training was most commonly provided by an internal member of staff. Few schools offered training provided online or by higher education institutions. Training relating to recognition of and knowledge relating to risk factors, signs, symptoms and treatments for mental health difficulties was more commonly offered than training relating to legislation and processes for referral and accessing services, and stigma reduction and mental health promotion. Schools reported a wide range of barrier scores (11-32) with an average sum of 21.95(SD = 3.85) and a mean item score of 2.74(SD = .48) (N = 186) (see Table 5.6). The most significant barrier was lack of capacity amongst CAMHS, with almost 80% of schools reporting this as '*very significant*'. Lack of national policy and capacity within school, as well as poor communication between agencies, were reported as '*very significant*' barriers by around a third of schools. Few schools (<11%) reported that negative attitudes amongst school staff was a significant barrier to providing effective mental health support.

Table 5.6 *Item response distributions and descriptive statistics for items relating to barriers to providing effective school mental health support*

	Not at all significant/don't know	Not very significant	Quite significant	Very significant
Lack of information about locally available support for mental health issues (N = 201)	12(6.0)	45(22.4)	96(47.8)	48(23.9)
Poor communication between different agencies (N = 196)	13(6.6)	26(13.3)	94(48.0)	63(32.1)
Lack of national policy for mental health in schools (N = 202)	12(5.9)	34(16.8)	88(43.6)	68(33.7)
Low priority afforded to mental health within the school inspection regime (N = 199)	31(15.6)	60(30.2)	60(30.2)	48(24.1)
Negative attitudes towards mental health amongst staff in my school (N = 195)	122(62.6)	52(26.7)	16(8.2)	5(2.6)
Lack of capacity within my school (e.g. time, availability, training) (N = 201)	13(6.5)	35(17.4)	90(44.8)	63(31.3)
Recruitment and retention difficulties with specialist staff in my school (N = 196)	78(39.8)	56(28.6)	38(19.4)	24(12.2)
Lack of capacity amongst NHS Child and Adolescent Mental Health Services (CAMHS) (N = 198)	4(2.0)	6(3.0)	31(15.7)	157(79.3)
Total Sum (4-32), minimum–maximum, mean(±SD) (N = 186)		11-32, 21.95(±3.85)		
Average (1-4), minimum–maximum, mean(±SD) (N = 186)		1-4, 2.74(±.48)		

Note: item response distributions are presented as count(%)

Multi-level Models of Individual and School-level Predictors of MHLCSE outcomes

In a multi-level model including 8 predictor variables, school type was the only significant school-level predictor of educators' perceived MHL and capacity (see Supplementary Table 1. in Appendix Three), with educators from secondary schools reporting higher scores on MHLCSE outcomes. Given the significant relationship between school type and training total score, such that secondary schools offered significantly more training than primary schools, a multi-level model was conducted omitting school type as a predictor to investigate whether total training score significantly predicted educators' perceived MHL and capacity to support students' mental health. Table 5.7 presents the full results of baseline, individual-level and school-level models for all MHLCSE outcome variables when the school type variable is omitted. Little variance was explained by schools (1.7-12.1%) and school-level variables (0.7-1.2%). The only significant school-level predictor of educators' perceived MHL and capacity, was the amount of training offered by schools, with increased training predicting higher MHLCSE scores. A complete case sensitivity analysis was conducted to compare the findings with the multiply imputed models, but produced identical results with respect to predictors of MHLCSE outcomes (see Supplementary Table 2. in Appendix Three.).

Table 5.7 *Multi-level models for baseline, individual-level only and individual and school-level predictors for MHLCSE outcome (N = 710, 248 schools)*

Parameter Estimate	Model 1: Baseline Model				Model 2: Individual-level Predictors				Model 3: School-level Predictors			
	Estimate(SE)				Estimate(SE)				Estimate(SE)			
	MHI	TS	LP	AS	MHI	TS	LP	AS	MHI	TS	LP	AS
Educator-level												
Intercept	3.61(.03)**	2.98(.03)**	3.23(.04)**	3.52(.04)**	3.46(.07)**	2.72(.09)**	3.08(.09)**	3.43(.09)**	3.31(.24)**	2.97(.33)**	2.90(.31)**	3.24(.32)**
Gender (female)					.14(.07)	.12(.09)	.11(.09)	.11(.09)	.12(.07)	.09(.09)	.08(.10)	.09(.10)
Years in Practice					.00(.00)	.01(.01)*	.01(.00)	.00(.00)	.00(.00)	.02(.01)*	.01(.00)	.00(.00)
School-level												
Designated MH Lead (yes)									.03(.07)	.00(.09)	.05(.09)	.01(.09)
Training: selected staff only (yes)									-.06(.14)	-.16(.19)	-.05(.19)	-.07(.19)
Training: all teaching staff (yes)									.04(.15)	-.06(.19)	-.01(.20)	-.03(.20)
Mean Training Total									.01(.00)*	.01(.00)*	.02(.01)*	.01(.01)*
Mean Barriers Total									.00(.01)	-.01(.01)	.00(.01)	.01(.01)
Log-likelihood	-739.80	-912.53	-906.05	-901.42	-735.54	-902.93	-903.47	-900.09	-728.30	-895.04	-895.18	-895.31
ICC [95% CI]	.017 [.000-.491]	.045 [.009-.203]	.121 [.060-.230]	.110 [.052-.217]	.024 [.001-.331]	.053 [.012-.198]	.128 [.065-.237]	.114 [.055-.222]	.008 [.000-.926]	.038 [.005-.229]	.112 [.052-.226]	.098 [.042-.215]
Random Effects	.09(.09)	.19(.08)	.30(.06)	.29(.05)	.11(.08)	.20(.07)	.31(.05)	.29(.05)	.03(.16)	.17(.08)	.29(.06)	.27(.06)

Note. Sub-scales: MHI – awareness and knowledge of mental health issues; TS = treatments and services; LP = legislation and processes; AS = comfort providing active support. * p<.05, **p<.001

5.5 Discussion

In order to identify the gaps in educators' perceived MHL and capacity to support students' mental health, the MHLCSE was used in the current study. The original three-factor structure, including awareness, knowledge and comfort sub-scales, was not confirmed (Fortier et al., 2017). Instead, an EFA revealed a four-factor structure had the best fit to the data, including factors relating to 'awareness and knowledge of mental health issues', 'treatments and services', 'legislation and processes', and 'comfort providing active support'. These findings suggest that awareness and knowledge are not separate constructs, but rather sub-scales are differentiated by the topics of perceived awareness and knowledge. The four items that made up the original comfort scale remained as one factor; though in the current study the factor was renamed to capture the behavioural element of providing active support. All sub-scales were found to have high levels of internal consistency, providing further support for the four-factor structure.

Educators reported less awareness and knowledge of available treatments and services, and legislation and processes relating to supporting students' mental health, when compared with awareness and knowledge of risk factors, signs and symptoms and the range of mental health issues experienced by children and young people. This supports previous research that found despite the ability to recognise symptoms of mental disorders, teachers lacked awareness of community services and processes for acting on their concerns about a student (Loades & Mastroyannopoulou, 2010). Although the current study reports relatively high sub-scale scores for comfort providing active support to students, at an item level, responses support previous literature in identifying many educators who do not feel comfortable with this role (Jorm et al., 2010). Specifically, educators were less confident talking with parents about students' mental health.

When considering Fortier et al.'s (2017) tiered model of educators' responsibilities to support students' mental health, improving awareness and knowledge of treatments and

services, as well as processes for referrals, could help educators be more understanding of students in their class who may be accessing treatments, and to support students when bridging the gap between school support and external agencies. Similarly, improving educators' awareness and knowledge of legislation such as confidentiality and children and young people's rights, should help to encourage mentally healthy classrooms in which students feel safe to talk about their mental health, and could help improve educators' comfort when discussing students' mental health with parents.

In relation to existing provision, over 70% of schools in the current study reported having a designated mental health lead. Compared with previous studies in the United Kingdom (UK) that showed that approximately 50% of schools identified a designated mental health lead (Department for Education, 2017), this finding indicates an increased priority afforded to mental health in recent years. This is understandable given the recent introduction of policy recommendations that incentivise schools to identify a mental health lead to oversee provision. However, the responsibilities of the designated mental health lead identified in the current study were varied. This could be one reason why this variable was not a predictor of educators' MHL and capacity in the current study. As a new policy recommendation, these findings suggest that clarification of the roles and responsibilities of school-based, designated mental health leads in England is needed.

The majority of schools reported offering mental health training to some staff within the school, and there was an almost equal split between schools that reported offering training to all teaching staff versus selected staff only. Most training was being delivered by internal members of staff. The majority of schools identified a designated mental health lead and almost half reported that they trained other staff. This could be due to significant barriers reported by schools such as lack of capacity amongst CAMHS, as well as poor communication between agencies. Lack of capacity within school was also reported as a significant barrier to providing effective mental health support by approximately a third of

schools. However, on the whole, schools did not report negative attitudes amongst school staff. These results align with significant barriers reported by schools in earlier research (Day et al., 2018).

Limited evidenced-based practice in school mental health provision may continue if designated mental health leads do not receive adequate training and support from external mental health professionals. In line with gaps in educators' awareness and knowledge relating to treatments, services, legislation and processes, the need for more training provided by external agencies is evident. These findings support previous research that suggest that schools understand their role in promoting mental health and identifying, supporting and referring students in need (Department for Education, 2017), but lack national policy and guidance, staff capacity and consultation and support from external mental health professionals (Patalay et al., 2016; Sharpe et al., 2016; Vostanis et al., 2013). It must be recognised that schools are being expected to hold greater responsibility in supporting their students' mental health within the context of an extended period of austerity (Hanley, Winter, & Burrell, 2020).

In terms of what type of training was offered by schools in the current study, the most common topics related to recognition of and knowledge relating to risk factors, signs, symptoms and treatments for mental health difficulties. Less common topics included legislation and processes for referral and accessing services as well as stigma reduction and mental health promotion. It has been previously found that plans and policies for promoting positive mental health of students are less common than plans to support pupils with identified mental health difficulties (Department for Education, 2017). More training is needed that focuses on prevention and promotion as well as the referral process within the local context.

Overall, results of the multi-level models indicate that, before including individual and school-level predictors, schools explained a small amount of variance (<5%) in awareness

and knowledge relating to mental health issues, and treatments and services, and relatively larger proportion of variance (11-12%) in awareness and knowledge relating to legislation and processes, and comfort providing active support. Despite slightly improving overall model fit, the addition of individual-level variables in all models did not explain additional variance in MHLCSE outcomes. Gender was not found to significantly predict educators' MHL and capacity. This finding does not support previous research (Askell-Williams & Cefai, 2014); however, in line with findings from this research, the current study found that, for the majority of MHLCSE outcomes, years in practice was not a significant predictor. Years in practice was however significantly and positively associated with awareness and knowledge relating to treatments and services. It is worth noting that awareness and knowledge of treatments and services differs from capabilities for mental health promotion, as measured in Askell-Williams & Cefai's (2014) study. This finding could highlight the changing role of educators such that years in practice could have helped accumulate awareness and knowledge of treatments and services but not confidence providing active support as is increasingly expected of school staff.

Secondary schools were proportionately more likely to report having a designated mental health lead and showed significantly higher levels of training provision when compared with primary schools. Furthermore, educators from secondary schools reported significantly higher levels of MHL and capacity to support students' mental health. This aligns with previous literature that showed secondary schools have higher levels of mental health provision (Patalay et al., 2017). Despite no direct effect of reporting a designated mental health lead on MHLCSE outcomes, the increased likelihood of secondary schools to report this role may be indirect support for clear roles and support from senior and pastoral teams helping teachers effectively support young people's mental health (Mazzer & Rickwood, 2015). Higher levels of mental health provision in secondary schools makes sense given that they are larger, and due to the age of onset of many mental health

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difficulties, are likely to have a larger proportion of students developing mental health difficulties (Kim-Cohen et al., 2003; World Health Organisation, 2013). However, this supports a more reactive approach, focused on providing targeted support. With greater responsibility to promote positive mental health, and prevent experiences of mental distress in adolescence, greater attention should be given to improving primary school provision.

In order to explore the effect of the total training score on educators' MHL and capacity, beyond that explained by school type, models were run excluding school type as a predictor variable. The final models, including both individual and school-level variables, explained additional variance in educators' perceived MHL and capacity. However, only training total was found to be a significant predictor across all MHLCSE outcomes, with higher training total scores at the school level predicting higher levels of educators' perceived MHL and capacity to support students' mental health. These findings support approaches to school-based interventions that understand that educators' capacity is dependent, in part, on school-level characteristics and resources (Domitrovich et al., 2008). However, the variance in MHLCSE outcomes explained by school-level training provision is small, and perceived school-level barriers to providing effective mental health support did not significantly predict MHLCSE outcomes. Overall, the findings from the multi-level models indicate that a relatively small amount of variance in MHLCSE outcomes is explained by differences between schools and their characteristics.

Limitations

Secondary analyses were conducted using cross-sectional data. Conclusions must therefore be drawn with caution about the influence of school-level characteristics on educators' perceived MHL and capacity, given that it was not possible to determine whether mental health provision reported at the school-level had actually been *experienced* by the educators completing the MHLCSE. Instead, the school-level variables offer a more general sense of the spread of responsibility of school staff to support students' mental

health, and the level of opportunity offered to staff for mental health related training. Furthermore, the contacts responsible for completing the mental health provision survey, worked across a number of different roles. It is therefore worth considering the possible influence of role on the mental health provision reported. Similarly, the role of the educators could have explained some of the variance in MHLCSE outcomes (e.g. being a classroom teacher and the SENCO), and this is therefore a limitation of the study. Educators' direct and indirect experience of mental health difficulties could also have contributed to higher levels of MHL (Ten Have et al., 2010). Future research should therefore account for these individual differences to better understand within school variations in MHL and capacity.

Despite being powered to detect small effects, the secondary nature of this study also meant that the average cluster size was relatively small. A larger number of educators per school could have resulted in more precise estimates of school level variance (ICCs). With the merging of school and individual-level surveys in the current study, there was missing data where one of the data sources was incomplete. For example, although educators from across 248 schools completed the MHLCSE, not all of these schools' key contacts completed the mental health provision survey. Furthermore, demographic information was not available for all educators that completed the MHLCSE. This issue of data completeness might have biased our estimates in the current study. However, this is counterbalanced by our use of imputation methods and complete case sensitivity analyses to assess the influence of imputation on the results. The study therefore provided complete transparency in terms of the amount of missing data, its treatment and the impact on outcomes.

Conclusion

In the current study, educators reported less awareness and knowledge relating to legislation and processes for accessing community services. This appears to be a

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particularly important area for development along with supporting educators to feel more confident talking with parents about students' mental health. The majority of schools had a designated mental health lead, and at least some selected staff were being offered mental health training. However, training relating to legislation and processes for supporting students' mental health, stigma reduction and mental health promotion were less commonly offered, particularly by external organisations. Secondary schools were more likely to have a designated mental health lead and higher levels of training provision. More work is therefore needed to improve primary school mental health provision. Higher levels of training offered at the school-level was associated with increased educator MHL and capacity. However, having a designated mental health lead, offering training to all teaching staff vs. selected members of staff, and school-level barriers to providing effective support did not significantly predict MHLCSE outcomes, and relatively little variance was explained by schools and school-level characteristics. More research is needed to fully understand the meaning of these results and the true implications for educator mental health training.

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6   CHAPTER SIX: CULTURAL ADAPTATION OF A SCHOOL-BASED MENTAL HEALTH LITERACY INTERVENTION: FROM CANADIAN TO ENGLISH CLASSROOMS (STUDY FOUR)

Mansfield, R., Humphrey, N., Patalay, P., Moore, A., & Stapley, E. (under review). Cultural adaptation of a school-based mental health literacy intervention: from Canadian to English classrooms.

Study Four is the version of the paper submitted for publication, reformatted for consistency across the thesis. There are no supplementary materials associated with this paper.

6.1 Abstract

School-based mental health literacy (MHL) interventions are increasingly being trialled outside of their country of origin. However, there are no published studies that qualitatively explore the cultural adaptation process. The current study aimed to understand what adaptations were made and suggested to a Canadian MHL curriculum (The Guide) within the English school context, including when, why and, by whom? Interviews were conducted with 11 school staff responsible for the planning and/or implementation of The Guide across three schools in the South East of England, as part of the Education for Wellbeing (EfW) feasibility study. A hybrid thematic analysis showed that adaptations made and suggested to The Guide's content included dropping and emphasising content, and adapting language, examples and references. The majority of adaptations were proactive and related to The Guide's implementation methods, including developing more interactive and student-led approaches. Logistical reasons for adaptations included: *Staff Capacity and Expertise*, *Timetabling*, and *Accessibility of Resources*. Philosophical reasons related to *Consistency of Messages*, *Student Characteristics*, *Reducing Stigma and Empowering Students*, *National and Local Context*, and *Appropriate Pedagogic Practices*. Overall, recommendations were for immediately implementable lesson plans informed by teachers' knowledge about best pedagogic practices in the adopting country. Adequate training, attended by a member of senior leadership and those implementing, was also emphasised. While ensuring that the core components are clear, MHL interventions should be developed with a necessary level of flexibility to accommodate contextual and student characteristics. As recommended by Lendrum and Askell-Williams (2019), future research should adopt a 'fidelity *with* adaptation' approach, and conduct process and implementation evaluations alongside efficacy trials.

6.2 Introduction

Cultural transferability is the extent to which an imported intervention requires adaptation to fit the needs of the relevant populations in the adopting country or context (Castro, Barrera, & Martinez, 2004). Some suggest that the success of imported preventive interventions is dependent on their level of adaptability (Castro et al., 2004), and that adaptations should be expected in real-world contexts (Carvalho et al., 2013; Moore, Bumbarger, & Cooper, 2013). While surface-level adaptations are generally expected and may improve the cultural fit of an intervention, extensive adaptation to content and pedagogic adaptations could undermine the process(es) through which desired outcomes are produced. Elliott and Mihalic (2004) argue that the need for local adaptation is largely overstated and that adaptations create uncertainty and threaten the potential effectiveness of preventive interventions. This is known as the fidelity-adaptation dilemma (Castro, Barrera & Steiker, 2010). It is therefore important to conduct research into what adaptations are made to imported, school-based interventions - when, why and by whom? This can inform the development of interventions that are flexible while maintaining clear logic models, striking a balance between required fidelity and necessary cultural adaptations (Ferrer-Wreder, Adamson, Kumpfer & Eichas, 2012).

Given that interventions have been found to produce positive outcomes with as little as 60% fidelity (Durlak & DuPre, 2008), it is clear that the quality and valence of adaptations are just as important for intervention success (Hansen et al., 2013; Humphrey, Barlow, & Lendrum, 2018). Despite increased demand, and therefore transportation and adaptation of evidence-based interventions (Castro et al., 2010), there remains a lack of Type Two translation research that explores the specific structures and processes that determine intervention adaptation and implementation in practice (Spoth et al., 2013). The importance of understanding not only the type of adaptations made, but also the knowledge and reasoning that informs them, is increasingly recognised (Humphrey et al., 2016).

Moore et al. (2013) introduced a taxonomy for understanding adaptations made to interventions in natural settings. Adaptation timing was divided into *proactive* (made prior to the delivery based on anticipated lack of fit), and *reactive* (in response to a particular dynamic, e.g. student engagement). Reasons for adaptation included a lack of *logistical* fit and limited resources (e.g. time and capacity available to deliver the intervention), and adaptations for *philosophical* reasons (e.g. the belief that the intervention content is inappropriate for the audience).

Examples of studies that report on the reasons for different types of adaptations made to school-based interventions, and the process of cultural adaptation, are emerging in the area of substance use prevention. Miller-Day et al. (2013) reported on the adaptations made by 7th grade teachers who implemented the keepin' it REAL (kiR) substance use prevention programme in rural Pennsylvania and Ohio. Adaptations to content included dropping, revising and adding content, and changes were made to the delivery context and format. Reasons for adaptations included logistical issues such as technical and time constraints, and philosophically driven adaptations to align with the characteristics of students. More recently, the process of culturally adapting kiR for Mexican schools was published (Marsiglia et al., 2019). This study adopted the ecological validity model (EVM; Bernal, Bonilla, & Bellido, 1995; Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009) and the cultural sensitivity model (CSM; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999; Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000), and analysed focus group data from students, teachers and external experts to inform the cultural adaptation. Surface level components such as language and videos were updated as well as incorporating cultural beliefs, attitudes and norms (see Table 6.2 for more detail on the EVM and CSM).

There are also emerging studies documenting reasons for adaptations made to social and emotional learning (SEL) interventions. Lendrum and Askell-Williams (2019) conducted an investigation of the adaptations made to the Promoting Alternative Thinking Strategies

(PATHS) curriculum in England; Shulman's (1986, 1987) categories of teacher knowledge were used to analyse the reasons for adaptations. Teachers delivering PATHS were not found to adapt based on content knowledge, generally accepting the ideas in the materials. However, many viewed PATHS as only a starting point, drawing on additional curriculum knowledge to cover key concepts. Furthermore, they made adaptations based on pedagogical knowledge such as time management and ways to optimise students' engagement on a specific topic. In some cases, PATHS was adapted proactively to align better with students' characteristics, including taking into account the wider school and local context. The study supported Jennings and Frank's (2015) hypothesis that the adaptation and implementation of imported SEL programmes can be better understood when applying frameworks of teachers' professional knowledge.

A School-based Mental Health Literacy Curriculum Case Study: The Mental Health and High School Curriculum Guide

Adolescence is increasingly recognised as a key period for improving MHL and promoting access to services (O'Connell, Boat, & Warner, 2009), with schools identified as a universal point of access (Fazel, Hoagwood, Stephan, & Ford, 2014; Greenberg, Domitrovich, Weissberg, & Durlak, 2017). In order to better align with public health approaches to health literacy with a focus on prevention and promotion, Kutcher, Wei and Coniglio (2016) defined MHL as: "*1) understanding how to obtain and maintain positive mental health; 2) understanding mental disorders and their treatments; 3) decreasing stigma related to mental disorders; and 4) enhancing help-seeking efficacy (knowing when and where to seek help and developing competencies designed to improve one's mental health care and self-management capabilities*" (p.155).

Based on the above definition, The Mental Health and High School Curriculum Guide (The Guide) was developed in Canada for adolescents aged 13-15. The original web-based curriculum aimed to increase students' MHL, and consisted of six evidence-based

modules: (1) Stigma of Mental Illness, (2) Understanding the Relationship between Mental Health and Mental Illness, (3) Understanding Specific Mental Illnesses, (4) Adolescents' Experiences of Mental Illness, (5) Seeking Help and Finding Support, and (6) The Importance of Positive Mental Health. As is indicated by the name, the curriculum was designed to be a guide that covered the core components of MHL. Modules were designed to be taught by class teachers with each lesson scheduled for approximately 60 minutes. The mechanism through which The Guide aimed to improve student outcomes, was therefore increased teacher MHL. The Guide was developed to be delivered over 10-12 hours. Each module included a full PowerPoint presentation with activities, and The Guide website provided additional materials such as teacher study resources.

The Guide was first trialled in Canada, delivered in grade nine health classes by classroom teachers. Multiple pre-post-follow up studies have shown significant improvements in teacher and student knowledge and attitudes relating to mental illness following The Guide curriculum, and have shown some sustained effects (Kutcher, Wei, McLuckie, & Bullock, 2013; Kutcher, Wei, & Morgan, 2015; Mcluckie, Kutcher, Wei, & Weaver, 2014). Furthermore, in a randomised controlled trial (RCT) investigating the impact of The Guide curriculum for grade 11 and 12 students, significant improvements in knowledge and attitudes were evidenced (Milin et al., 2016). The Guide has also been adapted and trialled abroad. For example, Tanzanian teachers significantly improved their knowledge, attitudes and help-seeking efficacy following the Guide training, and reported improved help-seeking efficacy in their students after receiving The Guide (Kutcher et al., 2016; Kutcher et al., 2017). A Malawi version has also been developed and showed significant improvements in teachers' knowledge and attitudes following a three day training programme (Kutcher et al., 2015). The clinical significance of the Guide has also been assessed in a parallel-group, controlled pilot in Nicaragua, where it was translated into Spanish and culturally adapted to fit the Nicaraguan context. Results indicated that high

school and university students that received the Guide curriculum reported significantly higher knowledge, lower stigma, more adaptive coping, better lifestyle choices, and lower perceived stress at 12-week follow up (Ravindran et al., 2018).

Despite these promising findings, and an increased number of controlled trials in recent years, reviews of school-based MHL interventions and universal, mental health awareness programmes, concluded that more research was needed to confirm their effectiveness (Salerno, 2016; Wei, Hayden, Kutcher, Zygmunt, & McGrath, 2013). Authors also suggested a greater focus on strengths and weaknesses of interventions for successful implementation. Few evaluations of MHL interventions have conducted implementation and process evaluations, with researchers often only focusing on one implementation measure e.g. fidelity (Chisholm et al., 2016). To our knowledge, there are not yet any published articles that qualitatively investigate the cultural adaptation of a school-based MHL intervention. With the increased transportation of MHL interventions across countries, it is critical to explore the process(es) by which interventions are adapted, and to document what adaptations are made, when, why and, by whom? A better understanding of the reasons for adaptations made by school staff can help to inform culturally flexible and feasible school-based mental health curricula.

The Current Study

Current policy in England is increasing the responsibility of schools to support their students' mental health, including the introduction of compulsory mental health education (Department of Health and Education, 2017; Department of Education, 2019). With the aim of providing more evidence for the effectiveness of different school-based mental health interventions in England, the Department for Education identified promising interventions in other countries. Given that The Guide has shown promising results across a number of different countries, it was selected to be trialled in English schools alongside Youth Aware of Mental Health (YAM), a universal mental health awareness intervention

taught by trained instructors. The AWARE trial (Approaches for Well-being and Mental Health Literacy: Research in Education) is a three-arm, parallel group clustered RCT comparing the Guide and YAM to a usual provision (control) condition (Hayes et al., 2019). As an imported curriculum, it was important to undertake a feasibility study before the main trial in order to assess its cultural transferability, and any necessary adaptations to content and implementation for the English school context.

Aims and Research Questions

The aim of the current study was to explore the cultural adaptation of a Canadian MHL curriculum (The Guide) for delivery in classrooms in England, by investigating the substance of and reasons for adaptations made by school staff involved in the feasibility study. The research question was: when trialling the feasibility of a Canadian MHL curriculum (The Guide) in England, what adaptations were made and suggested within the school context, including when, why and, by whom?

6.3   Method

Context for the Study

Interviews and focus groups were conducted as part of the EfW feasibility study to inform the adaptation of the nature and scheduling of implementation for the English school context. Schools expressed interest in the feasibility study in 2017 via an online form, and were allocated to either The Guide or YAM. Four schools in the South East of England were allocated to deliver The Guide in 2018 to approximately 90 students in years 9-10 (ages 13-15). Selected staff from all four schools attended a teacher training day in February 2018.

Participants and Procedure

Details of the research were presented as part of the training day and schools were invited to become case study schools. This involved allowing two researchers to visit the school for a day in the mid to late delivery period, observe a Guide session and conduct one-to-one interviews with school staff responsible for the planning and/or implementation of The Guide, as well as interviews or focus groups with students involved in the programme. Although one of the aims of the current study was to explore the suggested improvements to The Guide, given the primary focus on the adaptation process, only data from school staff were analysed in the current study. Schools expressed interest by emailing the research team who then provided relevant information sheets and liaised with the school to produce a timetable for the visit.

The current study focused on two self-selected case study schools that implemented The Guide (Sc1 and Sc3), and one school that chose to drop out following the training (Sc2). The inclusion of staff interviews from the drop out school provided a point of comparison in terms of reasons for not implementing vs. reasons for adaptations made and suggested to The Guide. All interviews with school staff were conducted one-to-one either in a private room at the school or over the phone (drop out school only); fully informed consent was gained from school staff on the day by a researcher. A total of $N = 11$ school staff were interviewed and $N = 2$ observations were conducted in April and May, 2018. Participants' roles within school and in relation to The Guide varied. For this reason, participants are referred to as 'school staff' throughout and a breakdown of roles and responsibilities is presented in the results section. For an overview of participants across the three schools, and the method by which they were interviewed, see Table 6.1. Of those participants that provided demographic information, all identified as female and were between 28-52 years old; three were Black British or Caribbean and four were White British.

Across all three schools, the key contact was a member of the Senior Leadership Team and had a specialist role within the Safeguarding and Support Teams e.g. Inclusion, Behaviour, Pastoral or Mental Health Lead. The Guide teacher training was attended by the key contacts from Sc1 and Sc3 but not Sc2. In addition, the members of staff responsible for the planning and/or delivery of The Guide were also selected by schools to attend the training day. From this initial stage of the project, schools took different approaches. Sc1 sent the staff responsible for the planning and implementation of The Guide, Sc2 sent only those responsible for implementation (Learning Mentors), and Sc3 sent only those responsible for the planning. From here, Sc2 decided that they could not commit to implementation, responses from staff at this school therefore only relate to their perceptions of The Guide, the associated training and suggested adaptations.

Table 6.1 *Overview of schools, participants and interview and observation methods*

School (Sc)	Participant (P)	Data Collection Method	Researcher
1	1	Face-to-face Interview	RM
1	2	Face-to-face Interview	RM
1	3	Face-to-face Interview	ES
1	4	Face-to-face Interview	ES
1	n/a	Observation (Module 3)	RM and ES
2	5	Phone Interview	RM
2	6	Phone Interview	RM
3	7	Face-to-face Interview	RM
3	8	Face-to-face Interview	RM
3	9	Face-to-face Interview	RM
3	10	Face-to-face Interview	AM
3	11	Face-to-face Interview	AM
3	n/a	Observation (Module 6)	AM

A semi-structured approach was used for the one-to-one interviews. This allowed for questions to guide specific topics of interest, while allowing flexibility for participants to offer new experiences and perspectives (Galletta, 2013). Interview schedules for staff from schools that implemented The Guide included questions relating to opinions on the content and structure of The Guide for the English context and suggested improvements, experiences of implementing, including any adaptations made and why, and the perceived impact for students. Similarly, for staff from the school that chose not to deliver The Guide, interviews explored opinions on The Guide, reasons for not implementing, and any suggested improvements to the materials and delivery methods.

The mean interview length in minutes for school staff was M = 29.37 (SD = 9.00). An observation of the implementation of one Guide session was conducted by researchers at Sc1 and Sc3. Researchers wrote observation notes relating to the school context, implementation methods, content and student engagement.

Data Analysis

Although the EfW interviews explored a range of areas described above, only data relevant to the current study's aim and research question were analysed. A hybrid thematic analysis was conducted at a semantic level using NVivo 12 and followed Braun and Clarke's six step approach (Braun & Clarke, 2006). The first (RM), fourth (AM) and last authors (ES), as well as members of the wider EfW team, familiarised themselves with the data by checking the accuracy of the transcription against the original audio files. RM led on all of the remaining steps of the analysis. Two stages of coding were conducted. Firstly, the following deductive codes were developed in line with the research question: what, when, why, by whom and suggested improvements. Within these codes, additional deductive codes were identified using a priori themes from pre-existing adaptation and teacher knowledge theory (see Table 6.2 for a priori themes). These codes were refined during the first round to avoid too much overlap across codes (e.g. where theories had overlapping themes), and to include only codes relevant to the current data. For example, at this stage, the last author (ES) reviewed a sub-set of deductive codes relating to deep vs. surface-level adaptations to content to help inform the inclusion/exclusion of these codes.

Inductive coding was then conducted to identify codes specific to The Guide and the English school context, and the unique experiences of the school staff. A process of reorganising and combining codes was then conducted in order to produce a preliminary set of themes. These themes were reviewed by the lead author (RM) by ensuring the content of coded transcript extracts accurately represented the themes, and that all data relevant to the research question were adequately captured. This was an iterative process

that continued through writing up themes and producing the final thematic map. A summary of data captured by each theme was written to form the narrative of the results section. The names and descriptions of themes as well as the selected data extracts were also reviewed in a number of discussions between the lead author (RM) and the fourth (AM) and last author (ES), to ensure that themes were accurately representing the data. Observation notes were then analysed by RM; this process helped to confirm themes relating to adaptations to content and implementation methods, and informed the narrative of the results section. A final review of results was conducted by all authors.

Table 6.2 *Overview of deductive codes and underpinning adaptation and teacher knowledge theory*

| Deductive Codes: Research Question	Deductive Codes: A Priori Theory	Underpinning Theory	Reviewed Deductive Codes
What (adaptations made and suggested)	Content - People - Context - Concepts - Goals - Metaphors - Language Implementation methods Surface level Deep level	These codes were informed by the ecological validity model (EVM; Bernal et al., 1995; Bernal et al., 2009) and the cultural sensitivity model (CSM; Resnicow et al., 1999; Resnicow et al., 2000). Both models recommend cultural adaptations across content and implementation methods, and include changes to language, metaphors, concepts, people, context and goals. The CSM presents two types of adaptation: surface-level or visible adaptations and deep, non-visible adaptations. By working to create an intervention sensitive to observable cultural characteristics such as language, clothes, and names, as well as incorporating deeper, less visible cultural norms such as attitudes and behaviours that are influenced by historical, environmental, social and psychological factors, both models aims to increase the audiences engagement and enhance programme efficacy.	Content - People - Context - Concepts - Language Implementation methods
When	Proactive Reactive	The timings of adaptations were presented by Moore et al. (2013) and later by Humphrey et al. (2016). They define proactive adaptations as those changes made prior to implementation, in anticipation of a lack of fit to the context. In contrast, reactive adaptations are defined as those made in response to issues that arise during implementation.	Proactive Reactive

Why	Logistical reasons	Reasons for adaptations were also split into logistical and philosophical. Logistical adaptations are defined as those made due to issues of time, capacity and resources, whereas philosophical adaptations relate to the perceived fit of an intervention in terms of how it aligns with the views and culture of the target population, and the organisations and individuals implementing it (Humphrey et al., 2016; Moore et al., 2013).	Logistical reasons
	Philosophical reasons		Philosophical reasons
Why	Teachers' Knowledge:	Lendrum and Askell-Williams (2019) applied Shulman's (1986, 1987) categories of teachers' knowledge to their analysis of adaptations made to the PATHS curriculum in England. Shulman used the following definitions for the different types of teacher knowledge:	Teachers' Knowledge:
	Content knowledge		Content knowledge
	Curriculum knowledge	Content knowledge: refers to the specific intervention subject knowledge	Curriculum knowledge
	General pedagogic knowledge	Curriculum knowledge: refers to an understanding and awareness of available curriculum materials and interventions relating to a specific subject.	General pedagogic knowledge
	Pedagogic content knowledge	General pedagogic knowledge: refers to general teaching practices, classroom organisation and time management of planning and timetabling.	Pedagogic content knowledge
	Knowledge of educational ends, purposes, values, philosophy, and history	Pedagogic content knowledge: is a combination of specific subject knowledge with appropriate pedagogic practices.	Knowledge of educational ends, purposes, values, philosophy, history
	Knowledge of educational contexts		Knowledge of educational contexts

	Knowledge of learners and their characteristics	Knowledge of educational ends, purposes, values, philosophy, and history: includes an understanding of the overall goals of the school e.g. school ethos Knowledge of educational contexts: refers to awareness and understanding of the school dynamic and governance as well as the local community context. Knowledge of learners and their characteristics: refers to an awareness of students' learning styles and teachers' knowledge of the characteristics of their class.	Knowledge of learners and their characteristics
Why	Recipient group characteristics Characteristics of staff Administrative/community factors	Castro et al. (2004) describe a 'cultural mismatch' when a programme or intervention conflicts with the needs of the relevant populations in the adopting country or context. They present three potential sources of mismatch: a) group characteristics, b) delivery staff, and c) administrative/community factors. Examples of group characteristics include language and ethnicity, staff characteristics include relevant skills and perspectives, and administrative and community factors include the organisation and infrastructure to implement the intervention.	Absorbed into logistical and philosophical codes and teacher knowledge.
By Whom	Characteristics of staff	As presented above, one potential source of cultural mismatch presented by Castro et al. (2004) is the skills and perspectives of the staff responsible for the planning and/or implementation of the intervention.	Characteristics of staff

6.4   Results

This section first presents when adaptations were made and by whom, and then gives an overview of the adaptations made and suggested to The Guide's training, content and implementation. Finally, the reasons for adaptations made and suggested have been organised into three logistical themes: *Staff Capacity and Expertise*, *Timetabling*, and *Accessibility of Resources*, and five philosophical themes: *Consistency of Messages*, *Student Characteristics*, *Reducing Stigma and Empowering Students*, *National and Local Context*, and *Appropriate Pedagogic Practices*. Figure 6.1 presents a thematic map of logistical and philosophical reasons for adaptations made and suggested.

Figure 6.1 *Thematic map of adaptations made and suggested and the logistical and philosophical reasoning*
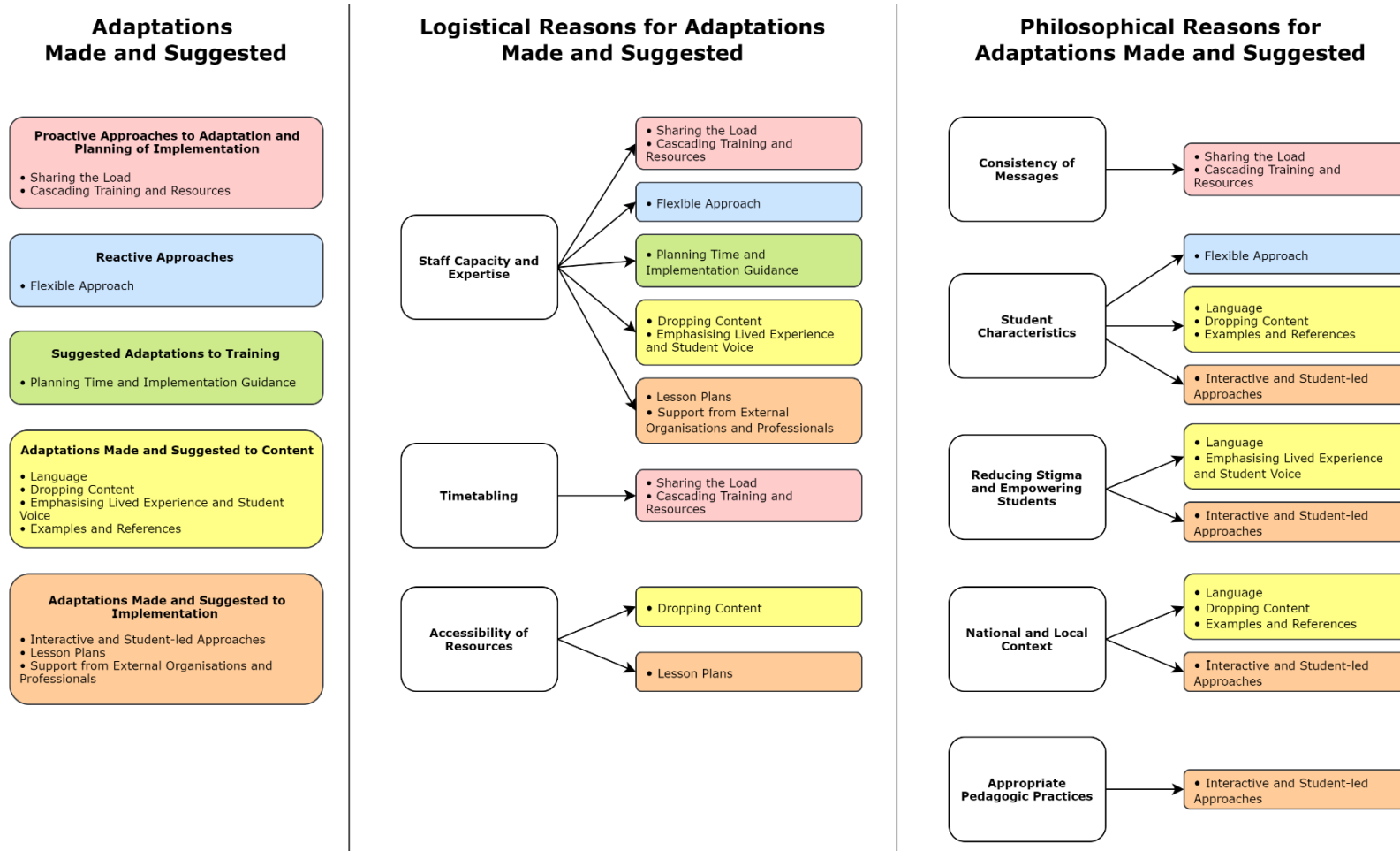
When were adaptations made and by whom?

The perceived need for adaptation

Across the two schools that implemented The Guide, staff were generally positive about the content and viewed it as a quality assured set of resources. All school staff reported that they valued the volume of information and materials provided within The Guide, which offered a level of flexibility to pick and choose content and activities relevant to their students. For this reason, one participant described The Guide as a "*one-stop shop*" (Sc3, P7). However, these comments were often caveated with the fact that, prior to implementation, there was a job for someone within school to translate the content into discrete lessons that could be delivered with consistency:

> *"My initial impression was there was a lot of content there which was great … That was kind of ideal to have something – it is all there, you know it is, kind of, a trusted resource, you've got the video links and so on. So that, for me, was a real positive. The negative was that, as it stands, it is not deliverable in schools. Certainly not in our context"* (Sc3, P7).

Similarly, for the school that chose not to implement The Guide, staff felt that a considerable amount of work was required to adapt materials and delivery methods to ensure they met the desired aims within their school context. It was therefore not perceived to be feasible due to a lack of staff capacity for producing lesson plans:

> "*Our staff simply haven't got the time to change and adapt lessons to make them what they would need to be, to be successful in the, the aims of the project*" (Sc2, P6).

Proactive adaptations

Among schools that did implement The Guide, the majority of adaptations reported were proactive. Different proactive approaches to adapting materials and planning the

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implementation were adopted, which can be organised into two themes: *Sharing the Load* and *Cascading Training and Resources.*

Sharing the Load: One school decided to split the six modules so that staff were only responsible for the planning and implementation of one session. This also meant that The Guide was delivered to larger groups of students (combined classes) in the school hall, as opposed to individual classes in the normal classroom setting. All members of staff involved in implementation held specialist roles within the school (e.g. Special Educational Needs Coordinator (SENCO), Behaviour Manager, Safeguarding Lead); the first two sessions were delivered by members of the Senior Leadership Team, and the Wellbeing Manager was present in all sessions:

> "*We've kind of broke it up into modules. So we've each taken a module to design and to teach to the year group.*" (Sc1, P4).

Cascading Training and Resources: At Sc3, the two members of staff that attended The Guide training adapted the materials and planned each module before cascading training to their colleagues (classroom teachers) involved in implementation. Resources were sent to these staff in advance of the timetabled sessions to ensure that they had enough time to familiarise themselves with the content. One member of staff who planned the modules was a member of the Senior Leadership Team, and both staff had specialist roles within the school (e.g. Personal Social Health Education (PSHE) Lead, SENCO, Mental Health Lead). Modules were delivered by classroom teachers in tutor time as part of the PSHE curriculum:

> "*So myself and (Teacher 1) who came on the training, we sat down and kind of went through it and thought about, okay, what might be, what are the kind of key things you want to take from each module? What might be some activities that you could do? ...*

what we tried to do is send it to people two or three weeks before they were delivering it, so they had time to digest and to go through it." (Sc3, P11).

Reactive adaptations

Fewer reactive adaptations were made within the sessions, and although some school staff reported making adaptations due to running out of time, most were in response to student engagement and could be organised into one theme: *Flexible Approach*.

Flexible Approach: Reactive adaptations related to a more flexible and organic approach that allowed the focus of the session to be led by students' interests. School staff also reported simplifying and translating content in order to make it more accessible. More reactive adaptations were reported by school staff from Sc3, who received cascaded training and delivered all modules to their tutor group:

> "*Rather than kind of bombard them with information on a PowerPoint I'd rather kind of pick things and just kind of like, you know, see what they're interested in, seeing what ... Seeing what's, you know, what's making their lights go on.*" (Sc3, P8).

What adaptations were made and suggested to The Guide?

This section provides brief descriptions of the types of adaptations made and suggested to different components of The Guide.

Suggested adaptations to training

Planning Time and Implementation Guidance: The majority of staff that attended training suggested that more time in the day should have been allocated for schools to start planning the materials and practising delivery. This included more time to discuss and share ideas with other schools. Staff reported receiving an overwhelming amount of

content on the day and would have preferred more guidance on how to deliver the modules:

> "*Because that's such a rarity to go, okay how can we make this work in the schools? And then, almost at the end, feedback across the schools and say, look, these are some of our initial ideas. What do other people think? And kind of bounce off having that interaction.*" (Sc1, P2).

Some staff from Sc3, who received only a cascaded version of The Guide training within school, reported that more training would have helped them to feel prepared to deliver the modules:

> "*So I would love to have a bit more training possibly, to be able to deliver this content. Because it's quite heavy walking in on a Monday I, just understanding that the lessons have just come in.*" (Sc3, P10).

Adaptations made and suggested to content

Reported and suggested adaptations to content were organised into four themes: *Language*, *Dropping Content*, *Emphasising Lived Experience and Student Voice*, and *Examples and References.*

Language: School staff described a process of adapting and translating language in order to simplify and anglicise The Guide's content. While an attempt to keep core content was reported, in some cases language was adapted to change key messages:

> "*It was changing some of the language so that… Not, not to change the factual parts of the language. It was around the language that they can access and understand because what, what we don't want to do is confuse them anymore or make them feel that, you know, we're giving you something that is uncontrollable or you might not be able to have some control for yourself.*" (Sc1, P1).

Dropping Content: There were reports from school staff of narrowing down and streamlining the PowerPoint slides, and dropping content that they did not feel was age appropriate, accessible (e.g. treatment options), and relevant to their students, and the national and local culture (e.g. videos):

> "*We haven't used the videos because I, we didn't think the videos were that accessible to British students ... I'd rather not show a video at all, than show one that the kids don't take seriously.*" (Sc3, P11).

Additional topics were suggested for the future (e.g. friendships and parents) relevant to young people, as well as content based on gaps in students' pre-existing knowledge. Some content was also dropped because staff did not feel confident delivering it (e.g. biomedical explanations of mental illness and box breathing exercises).

Emphasising Lived Experience and Student Voice: School staff reported creating space for students to open up and share their opinions, insights and experiences within the sessions, and to take some ownership over the focus of conversations. There were also examples of staff drawing on their own personal lived experiences of mental health difficulties and accessing support. By encouraging students to share their experiences, staff aimed to normalise teenage stresses and angst and prevent self-diagnosis, provide coping strategies and help students recognise when they might need to ask for additional mental health support. An emphasis on these topics was also noted in one of the observations. Furthermore, school staff reported focusing on friendship, and empowering students to talk openly and support each other and disclose worries about friends:

> "*My engagement really was making sure that they understood the importance of being able to speak freely about mental health issues. And as a person who's sought out services in my own personal life, and, you know, vouching for how beneficial it has been in my life, I wanted to speak openly with my tutor group*

about different types of ways that mental health can kind of manifest itself, and ways that they can cope." (Sc3, P10).

Examples and References: The adaptations made and suggested related to the same components. For example, realistic and accurate information about the accessibility and availability of local and national services and support, and ensuring that information aligned with what "*CAMHS might say*" (Sc1, P1), and national approaches to diagnosis (e.g. bipolar disorder is rarely diagnosed in childhood). Similarly, school staff included/suggested local and national level prevalence statistics for young people. Some relevant diagnoses (e.g. conduct problems) were also not seen to be adequately covered in the content:

> "*If we make that more specific to this area. So like, what services are available here rather than more widely because, we want them to know what the realistic options are if you go to a GP, what might happen next*?" (Sc1, P2).

There were also attempts to include more 'British' videos in The Guide, and examples and references (e.g. examples of celebrities with lived experience and videos) that were relatable and represented students:

> "*And even the people they were referring to, the students wouldn't necessarily relate to them. So I asked if there was any information out there about British people in the public eye. So it was more, I don't know, anglicised I suppose.*" (Sc1, P3).

Adaptations made and suggested to implementation

The majority of adaptations reported and suggested were to The Guide's delivery methods, and could be organised into one large theme titled *Interactive and Student-led Approaches*. Additional suggested improvements to implementation were organised into two themes: *Lesson Plans* and *Support from External Organisations and Professionals*.

Interactive and Student-led Approaches: Adaptations to delivery methods were focused on creating interactive and student-led sessions in order to keep students engaged and interested, and to reduce the stigma of opening up and talking about mental health. To encourage interaction, school staff reported finding ways to keep the conversation flowing by "*scaffolding of the discussions*" (Sc1, P4), and asking students questions to encourage them to share their knowledge, ideas and views. In addition, small group work was reported as a technique to promote discussions amongst students. Despite delivering The Guide to large groups of students in the school hall, Sc1 arranged tables so that groups of approximately 5-6 students could work together on activities. Researchers observed group work at both schools. It appeared that students chose their own groups for activities, this resulted in some groups engaging with and focusing on the task and others having discussions off topic.

Both schools that implemented The Guide created workbooks or folders including content and resources, as well as worksheets and space for students to write notes and reflect on what they had learnt in each session. These were visible in the observations. School staff reported setting more student-led research activities, providing more of a "*blank sheet*" (Sc1, P4) for students so they could actively, as opposed to passively, gain information on the topics covered in The Guide. This also then offered opportunities for peer learning, with examples of carousel teaching and students presenting what they had learnt in their groups back to the class e.g. through posters. An example of this from the observations was students searching for information on the internet using tablets (and to a lesser extent the original Guide mini-mags (magazines about specific mental disorders)), and then creating posters to present to other groups in the next session:

> "*I modified the activity that they gave so it's more a discussion amongst the students. And it was interactive in terms of asking their views on things. So in that*

respect, it was a very different kind of presentation, a very different style of delivery as to the one that was presented to us in training." (Sc1, P3)

Lesson Plans: Staff from all schools suggested that The Guide materials should be made more accessible by providing teacher and student packs with detailed, fully developed and interactive lesson plans. They suggested that more input from teachers would improve the lesson plans. Ultimately, school staff wanted ready to go lesson plans that could be picked up and immediately implemented by any member of staff:

> "*Yeah, I mean again it's just it would have been sort of more detailed, more interactive lesson plans. In fact, I think we would have been happy to go ahead if that had been sort of there from the start.*" (Sc2, P5).

Support from External Organisations and Professionals: Staff from across all schools agreed that mental health education was helpful and that it was important that students had the chance to discuss these topics in school. However, some staff felt that more involvement of external mental health professionals was needed. For example, one member of staff felt that in order to do the topic justice, mental health experts should deliver the sessions. Alternatively, it was suggested that more training and support from external mental health professionals was needed to equip school staff to deal with disclosures that arise from the sessions. For maximum success, staff felt that interventions like The Guide should be complimented with programmes outside of the school setting. The lack of student engagement observed in one of the sessions indicated that the class tutor was not being taken seriously; there were also some trust issues, with students voicing concerns about sharing their problems with school staff:

> "*But there is a point where I think experts need to come in, to either deliver a training session, or to deliver one of the kind of lessons …*

they see us with our subject hats on. And so, when we become, you know jack of all trade, it becomes a bit like oh, you can't, they know sometimes we're winging it, you know? And, with something so paramount, so important, you know we wanna do it justice." (Sc3, P10).

Reasons for adaptations made and suggested to The Guide

Logistical reasons for adaptations made and suggested

Logistical reasons were organised into three themes: *Staff Capacity and Expertise*, *Timetabling*, and *Accessibility of Resources*.

Staff Capacity and Expertise: Time capacity was a driver for schools in terms of their proactive approaches to adaptation and planning of The Guide implementation, and was the primary logistical reason for Sc2 opting not to implement. For both Sc1 and Sc3 that implemented The Guide, senior leaders attended the training and were responsible for at least some of the adaptation and planning of delivery. Interestingly, for the school that dropped out, it was not possible for a senior leader to attend the training, and the non-teaching staff (Learning Mentors) assigned to implement The Guide already felt overworked. For the implementing schools, approaches were either based on division of labour or reducing the workload for non-specialist staff. Reducing the number of staff that had to adapt and plan each module was also linked to the logistical challenge of getting a group of staff together within a very busy school day. Staff expertise and previous experience of planning and delivering mental health content was also considered by schools when assigning roles. For example, all staff planning and implementing The Guide modules in Sc1 were members of pastoral or support teams. Similarly, the staff responsible for adapting and cascading training and resources in Sc3 were in specialist roles (e.g. PSHE Lead), and did not expect the non-specialist tutors to feel confident planning The Guide modules:

"*So, we decided if we split it up we'd be able to work better and more effectively on each of the modules rather than one person or us as a group trying to meet which logistically, as I'm sure you know, in the school it's so difficult to get everyone all together.*" (Sc1, P2)

The relationship between different members of staff and students also informed schools' approaches. For example, the involvement of the senior leadership team in the delivery of The Guide by Sc1, and pre-delivery assemblies in Sc3, was seen to raise the profile of the topic and ensure good behaviour management. Sc3 considered class tutors to be well placed for implementing The Guide given their regular contact and therefore closer relationship with students. The availability of support staff following sessions was also reported to ensure students had someone to go to if they wanted to discuss topics arising, or disclose personal difficulties:

"*So that was one of the reasons why, actually, logistically it wasn't very sensible for me to deliver it, because if students are coming out of a lesson they needed someone they knew they could go to.*" (Sc3, P7)

Staff capacity and expertise also led to a range of reported and suggested adaptations to The Guide content and delivery methods. For example, lesson plans and support from external organisations were suggested due to limited time capacity for staff to adapt and translate The Guide materials into implementable lessons, and expertise to deliver content and deal with disclosures that arise from the sessions. Furthermore, some content was dropped due to a lack of staff confidence, and content relating to lived experience of mental health difficulties was emphasised by those with personal knowledge:

"*The box breathing, because that was the bit that some tutors got a bit funny over. You know, they didn't feel quite as confident about that. So we had left that off.*" (Sc3, P7).

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Timetabling: Another logistical challenge for all schools, including Sc2 that decided not to implement The Guide, was timetabling. For Sc1, concerns about pulling students from normal lessons to attend the sessions, and the difficulty of covering staff, informed their implementation approach. For Sc2 and Sc3, who planned to implement as part of the PSHE curriculum, there was an issue of support staff (e.g. Learning Mentors) availability and cover during the timetabled PSHE lessons. This led to the drop out of Sc2 and non-specialist tutors delivering The Guide modules in Sc3:

> *"Because when you pull aside six groups at the same time, the impact it has on the timetable of that because you have to take them out of lessons to do that ... Once I started to pencil in a timetable for delivery, it was looking a little cumbersome in terms of covering the lessons for the teachers."* (Sc1, P3)

Accessibility of Resources: The suggestion for ready to go, easily accessible and immediately implementable lesson plans also came from school staff finding The Guide website difficult to navigate, and materials time consuming to adapt due to their PDF format. School staff were also unable to play some of the videos due to technical issues, and this was witnessed during one of the observations. Printing and photocopying was mentioned as a barrier to implementation by Sc2, and Sc1 used tablets in the observed session to reduce printing:

> *"I think the way it's set out at the moment, the slides and the PDFs, and that I, you couldn't pick those up and teach them, and I think if I had brought this in, and spent money on it, or had like been told will you do this? ... I'd be having a nightmare right now, because I wouldn't know what to do."* (Sc3, P11)

> *"Ensuring lessons were photocopied ... That's a genuine question that everyone's concerned about, who pays for photocopying?"* (Sc2, P5)

Philosophical reasons for adaptations made and suggested

Philosophical reasons were organised into five themes: *Consistency of Messages*, *Student Characteristics*, *Reducing Stigma and Empowering Students*, *National and Local Context*, and *Appropriate Pedagogic Practices*.

Consistency of Messages: It was recognised that school staff could have different perspectives on the topics covered in The Guide, and adopt different teaching styles. Schools therefore developed approaches to remove personal feelings and reduce variation in delivery. For example, instead of six members of staff planning and implementing all modules to their class, modules were split, and materials shared across the team. By teaching the students in larger groups, the aim was that all students would receive consistent messages and experience a range of staff delivering the modules:

> "*And when I looked at it. I thought, well, actually, when you've got six people delivering, you can't rely on the consistency of the message coming through. And although we're all good teachers, we all deliver, have a different style. And it's about getting the message across.*" (Sc1, P3)

Sc3 had hoped to adopt a similar approach, with the two members of staff that attended The Guide training implementing modules. However, due to capacity and timetabling, they instead decided to plan modules and then cascade resources to the class tutors. This approach was seen as potentially compromising in terms of consistency:

> "*I had hoped that myself and two other colleagues would deliver it to the year groups. Because, again, it was that issue of consistency. But logistically it just didn't work, it just wasn't possible. So what we have done is we've presented to the teams and gone through it with the teams and then they are delivering it. Now, obviously, within that you are going to have better practice than others and that is a reality.*" (Sc3, P7)

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Student Characteristics: Students' characteristics were a driver for adaptations to both content and implementation methods. For example, students' ability and pre-existing knowledge was a reason for dropping content to avoid overloading students with information, and to make messages clear and consistent without too much repetition. Content relating to different treatment options was described by some as 'adult' and deemed too advanced to present to students. In line with students' ability, language was simplified to make information accessible. Examples of language simplification were both proactive and reactive, for example, in response to the understanding of students speaking English as an additional language:

> *"There's lots of young people who've not got the literacy levels or the language skills to be able to understand all of that. So just simplifying some of it down but making sure that the content isn't lost"* (Sc1, P2)

Additional content was also suggested based on gaps in students' pre-existing knowledge. Furthermore, school staff reported adapting implementation methods to reduce the amount of information presented to students to avoid them getting lost. Interactive and student-led approaches were adopted, such as questioning students to see what they already knew, and encouraging them to share their pre-existing knowledge. In addition, the student demographic was considered in terms of age and ethnic, cultural and religious background. For example, content that was not deemed age appropriate was dropped or adapted, and topics more relevant to young people were suggested for the future (e.g. friendships and parents). Adaptations to examples and references (e.g. examples of celebrities with mental health difficulties and videos) were also made and/or suggested to ensure relatability and that students' were represented:

> *"Maybe more examples that we could use, say more linked to families and parents or what the children, you know, children, situations with children, could be more, more relevant to them."* (Sc3, P9)

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"Looking a bit at diversifying, so some of the videos, I think they pretty much all were white young people which we've got such a diverse mix of young people. To make sure that they didn't think, oh, why am I not represented in it?" (Sc1, P2)

Reducing Stigma and Empowering Students: A number of adaptations to content and implementation methods were linked to the overarching aim of reducing stigma and empowering students by normalising experiences, and providing strategies for coping and seeking help for themselves and others. For example, in some cases, school staff purposefully adapted language to change the messages in The Guide and de-stigmatise content relating to biomedical explanations of mental illnesses and treatments. Ground rules, including respectful behaviour towards others, were set in the observed session in one of the schools in an attempt to create a positive environment to reduce stigma. The emphasis on lived experience and student voice through interactive and student-led approaches also aimed to reduce the stigma of opening up and talking about mental health, and give students' ownership over their learning:

"Working with those students [with experience of mental health difficulties] *and the others I think is a really nice thing to do. I think it gives them, like I say, a little bit more ownership of it and a little bit more understanding and a little bit more empathy."* (Sc1, P4)

"Doing the posters is quite helpful as well, because the students were then taking on board what they want to say, or what they want to promote" (Sc3, P9)

National and Local Context: Adaptations to content were made to ensure the cultural fit of The Guide, with a distinction between ensuring that content was relevant to the local and school context as well as the national context. For example, school staff felt that it was important to provide realistic and accurate information about the accessibility and availability of local and national services and support, suggesting that there was currently a gap in support available in the community and an increased pressure on child and

adolescent mental health services (CAMHS). They also wanted to ensure that information aligned with national approaches to diagnosis (e.g. bipolar is rarely diagnosed in childhood). School staff also adapted and suggested national and local prevalence statistics, suggesting that the more far removed the content is the less the students would engage with it:

> "*It's always very useful to tell the young people, look, across the UK this was a survey done. These were the issues that young people said are affecting them because it's useful for them to feel that they're a part of the, the teenage body within the country.*" (Sc1, P1)

> "*So rather than it being further removed, they can kind of make sense of it in where they live. Because, even outside of (Borough 1) it's like, they're like; oh that's, you know, that's such a long way away. So yeah, if we make it too generalised I think they detach from it a little bit*" (Sc1, P2)

Similarly, there were examples of videos being dropped due to their lack of cultural fit. For example, Sc2 and Sc3 described The Guide videos as inaccessible to British students, and Sc3 did not include them for fear that students would not take them seriously. Language was also anglicised to make it relatable, and examples and references were included that were nationally relevant and fit with the local and school demographic, and the culture of the community. Finally, in relation to the lack of interactive and student-led delivery methods in The Guide, school staff commented on the possible cultural differences in pedagogic practices between Canada and England and referred to the national standards for school practitioners:

> "*I think the British sensibility, you know, that there are just cultural differences and some of those videos you just get that, ugh, no, I don't get this, it is too sincere, it doesn't fit. We are too cynical as a nation.*" (Sc3, P7)

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Appropriate Pedagogical Practices: Staff from across all three schools agreed that The Guide's originally prescribed delivery methods were not appropriate. As previously mentioned, staff used their knowledge of national standards for education practitioners (e.g. OFSTED) to adapt the delivery methods. They felt that a predominantly teacher-led and didactic approach of simply talking at students would lead to them not engaging, getting lost, bored and misbehaving. Observations confirmed that behaviour management was an issue for both schools, particularly during the PowerPoint presentations:

> "*We felt that there wasn't really much opportunity for interaction for the pupils to take part in activities, to ask questions to express their views. And our concern was if you know we delivered them like that the pupils could be bored or switch off or they'd misbehave and it was a really important topic.*" (Sc2, P5)

School staff adapted and/or suggested pedagogic practices that were active instead of passive. Content was dropped to ensure clear and consistent messages, and interactive and student-led approaches were adopted to increase students' ownership and pride over their learning. The aim was to help them to apply their experiences to the sessions and transfer knowledge in the future. There was also recognition across both implementing schools of the sensitive nature of The Guide, and appropriate pedagogy to ensure that an open and non-intimidating environment was created, and a mind-set that would encourage discussions and questions. For example, the use of small group work and feeding back to the class. Despite these attempts, there was visible lack of engagement from some students in both observations. Workbooks and folders were also reported as a way to make the subject feel valued and important, as well as creating longevity of the project with something for students to look back on and potentially disseminate knowledge at home:

> "*I got the impression from some other schools that they shared that concern that they might be able to do this in Canada but you just can't stand up and talk at a class. It is not going to wash in terms of when we get observed, and what is*

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expected of us as practitioners. You know you'd be in a lot of trouble if you just,

you know, you'd be criticised for it being too teacher led" (Sc3, P7)

6.5   Discussion

In line with recommendations from existing models of cultural adaptation (EVM, CSM) (Bernal et al., 1995; Bernal et al., 2009; Resnicow et al., 1999; Resnicow et al., 2000), and previous investigations of adaptations made to PATHS (Lendrum & Askell-Williams, 2019), the current study found that the majority of adaptations were proactive, made prior to implementation in anticipation of a lack of fit. The general consensus was that The Guide was a "*one-stop shop*" (Sc3, P7), providing a large volume of information and materials that could be selected and adapted for their students. However, it was not considered appropriate or feasible to implement in its current form. This resulted in one school not delivering The Guide, and the other two schools adopting proactive approaches for adapting and planning the materials and implementation methods. Reasons for schools' overall approach to planning and delivery, as well as adaptations made and suggested to The Guide's content and implementation methods, were organised into logistical and philosophical themes as defined by Moore et al. (2013) and Humphrey et al. (2016). Logistical reasons were organised into three themes: *Staff Capacity and Expertise*, *Timetabling*, and *Accessibility of Resources*; a further five philosophical themes were identified: *Consistency of Messages*, *Student Characteristics*, *Reducing Stigma and Empowering Students*, *National and Local Context*, and *Appropriate Pedagogic Practices*.

The lack of preparation and curriculum time to deliver PATHS reported by Lendrum and Askell-Williams (2019), was similarly reported as a significant issue in the current study. Staff members' time capacity, as well as the related issue of timetabling, contributed to a school sharing the load of planning and implementation, another cascading training and resources, and one school not implementing The Guide at all. Across all schools, staff reported either barriers to being able to send all necessary staff on the training, a lack of

opportunity for staff to meet together for planning, or difficulties in finding staff cover for the timetabled sessions. It was therefore suggested that more time should be allocated to planning in The Guide training, and that fully developed lesson plans should be provided that can be immediately implemented. Easily accessible lesson plans were also seen as a way to resolve time and technical issues in finding and using specific Guide materials (e.g. videos). These logistical constraints align with those reported by teachers in the kiR study (Miller-Day et al., 2013).

Staff content knowledge and curriculum knowledge, as defined by Shulman's (1986, 1987) categories of teacher knowledge, was also considered by schools when assigning roles, as well as the relationship between staff and students. These codes were combined and included in the logistical theme *Staff Capacity and Expertise*. For example, the involvement of senior leaders in the delivery of sessions was seen to raise the profile of the topic, the expertise of staff in specialist roles (e.g. SENCO, Mental Health and PSHE Leads) was utilised for the planning and/or implementation, and class tutors were seen as well placed to deliver The Guide given their regular and closer contact with students. Support from senior leadership has been shown in previous research to be essential for the success and sustainability of school-based, mental health and wellbeing initiatives (Askell-Williams, 2017). Both Sc1 and Sc3 were able to send a member of the senior leadership to The Guide training, and at both schools, senior leaders had a role in at least some of the adaptation and planning of The Guide. For Sc2, the fact that it was not possible for a senior leader to attend the training, and that teaching staff (Learning Mentors) assigned to implement The Guide already felt overworked, could have contributed to their dropping out of the implementation.

Despite an attempt to carefully balance the expertise and availability of staff, there were examples of content being dropped that staff did not feel confident delivering, and suggestions for increased support from external organisations and professionals. These

findings align with barriers previously identified for delivering school-based mental health provision such as limited guidance, staff capacity and consultation and support from external mental health professionals (Patalay et al., 2016; Sharpe et al., 2016; Vostanis, Humphrey, Fitzgerald, Deighton, & Wolpert, 2013). It is recommended in module five of The Guide, relating to help-seeking, that the session be delivered with the support of a mental health professional. In some provinces in Canada, schools have in-house mental health professionals. Sc1 reported the involvement of a school counsellor; however, there appeared to be a cultural mismatch in the availability of specialist staff within schools in England (Castro et al., 2004).

The aims of The Guide were generally accepted in line with other qualitative studies in which teachers support the role of schools in providing mental health education and supporting students' mental health (Graham, Phelps, Maddison, & Fitzgerald, 2011; Reinke, Stormont, Herman, Puri, & Goel, 2011). However, the importance of adequate training is emphasised in the current study with some staff from Sc3, who received only a cascaded version of the training within school, feeling underprepared. As has been found in previous United Kingdom (UK) studies, concerns were raised about schools' capacity to deal with potential disclosures following The Guide sessions, even by staff who reported more preparedness in delivering the mental health content (Rothì, Leavey, & Best, 2008). In Lendrum and Askell-Williams' (2019) study of teachers' adaptations to PATHS, staff generally felt comfortable with the SEL concepts that underpinned the curriculum, and those that didn't felt comforted by the initial training and ongoing coaching support. It was suggested that SEL was perceived as a more general practice that did not require discrete subject knowledge. In contrast, the mental health content in The Guide was perceived to require professional subject knowledge that should be delivered by staff within the school with the most expertise in mental health with continued support from external mental health professionals.

Taken together, the logistical reasons for adaptations speak to the fact that up until recently, mental health education was not compulsory in English schools (Department for Education, 2019). Schools adopted different approaches to adaptation, planning and implementation due to staff expertise, availability and timetabling issues. For example, the range of roles held by staff, and the different approaches to timetabling sessions, shows a lack of consistent staffing (e.g. mental health leads and support staff) and allocated time for mental health initiatives. There was an attempt within schools to provide consistent messages to students, acknowledging not only staffs' different teaching styles but also the influence of their knowledge, beliefs and experiences relating to mental health. School staff reported an awareness of different professional mental health discourses (Zeeman & Simons, 2011), and the effect of inconsistent messages and predominantly biomedical explanations on desired stigma reduction. The philosophical reasons for adaptations made and suggested to content and implementation methods ultimately related to making The Guide as relevant and engaging, and therefore helpful, to students as possible.

Examples of both deep and surface-level adaptations were reported, as defined by existing models of cultural adaptation (EVM, CSM) (Bernal et al., 1995; Bernal et al., 2009; Resnicow et al., 1999; Resnicow et al., 2000). However, there was some overlap between these codes and the decision was taken to organise themes based on the aspects of content referred to. For example, school staff reported and suggested adaptations to surface-level components of The Guide content, like language and examples and references such as the people represented in videos, and reference to local organisations. Philosophical reasons included student characteristics such as ability and ethnicity, as well as characteristics of the national and local context (e.g. availability of services). Adaptations to language were also used as a way to change key messages in The Guide, which was perceived to be a deep-level conceptual change in order to align with school staffs' beliefs about what messages would most likely produce positive outcomes. Similarly, emphasis on lived

experience and student voice was associated with achieving the core outcomes of reducing stigma and empowering students to seek help for themselves and others. Although these were the original aims of The Guide, the process reported by school staff of dropping, refining and adding content in order to achieve these aims, was the same as that reported by teachers adapting the kiR (Miller-Day et al., 2013).

The majority of adaptations made and suggested were to The Guide's implementation methods. These predominantly consisted of creating interactive and student-led approaches which were driven by student characteristics, national standards for appropriate pedagogical practices, and the aim of reducing stigma and empowering students. These philosophical reasons for adaptations align with Shulman's (1986, 1987) categories of teachers' knowledge found to most commonly inform adaptations made to the PATHS curriculum in the UK (Lendrum & Askell-Williams, 2019), namely, 'knowledge of learners and their characteristics' and 'pedagogic content knowledge'. Staff applied their general pedagogic knowledge as well as an understanding of the kinds of pedagogies appropriate for covering mental health topics, and reported reducing the PowerPoint slides and replacing them with interactive and student-led activities, discussions and group work. The hope was that students would take more ownership over their learning, apply their knowledge to their own experiences and feel a sense of reduced stigma in discussing mental health and seeking help for themselves and others. They reported a potential cultural mismatch between students' learning styles in Canada and England (Castro et al., 2004), questioning the ability of Canadian students to behave and listen to a teacher deliver a long PowerPoint presentation.

Strengths and Limitations

Although the current study had a small sample size compared to Lendrum and Askell-Williams' (2019) and Miller-Day et al.'s (2013) studies of teachers' adaptations to PATHS and kiR, it provides an in depth exploration of the different approaches of three schools

that were allocated to deliver The Guide as part of the EfW feasibility study. Rich accounts from a small sample can been seen as a strength of qualitative research (Smith, 2018). Instead of applying statistical-probabilistic generalizability, the current study conducted a hybrid thematic analysis to explore analytical generalizability i.e. conceptual or theoretical generalisations relating to cultural adaptations made to school-based interventions.

Given that the current study also presents schools' reflections on their approaches to implementing The Guide, the current study offers opportunities for naturalistic and transferable generalisability, in which the reader may identify more with a particular school's experiences and apply this to their own school context (Smith, 2018). Of course, it is important to note that the schools involved in the current study, at least at the point of expressing interest in the EfW programme, felt able to implement a set of MHL lessons. This self-selection indicates a priority afforded to improving students' MHL. This does not mean however, that other schools cannot learn from their experiences when considering implementing similar interventions in the future. Furthermore, if schools that are motivated and better equipped to deliver these types of interventions make adaptations due to logistical constraints, there are clear implications for the future uptake of such approaches by schools across England. The current study therefore adds insights specific to MHL interventions and mental health education more generally in the English school context.

The analysis of observation notes can also be seen as a strength of the current study, providing the opportunity to validate self-reported implementation. Observations in both schools revealed the variability in student engagement and problems with behaviour management, despite adaptations to increase students' active involvement and make content more relevant. Possible reasons for this included the large class sizes in Sc1 and a lack of confidence from class tutors implementing in Sc3. In contrast to Miller-Day et al. (2013), observations were conducted face-to-face as opposed to video recorded, meaning only one session was observed in each school. There was also no system for coding and

rating adaptations made in the observed sessions which can be seen as a limitation of the current study.

Related to this is the issue that interviews took place on the same day as observations, meaning that schools had not yet completed the implementation of The Guide. This may have contributed to fewer reactive adaptations being reported by school staff. Furthermore, Sc1's approach to sharing the load of adaptation and implementation of sessions meant that the staff interviewed inevitably focused more on the session for which they were responsible. However, four implementing staff were interviewed, including a member of the senior leadership team that oversaw the project, and a lead member of the pastoral team that reported being present at all of the sessions.

Implications

In order to overcome some of the challenges experienced by schools, future school-based MHL interventions should be developed with comprehensive lesson plans, and allow planning time in the associated training. In addition, it should be recommended that a member of senior leadership, as well as those responsible for planning and/or adapting the intervention, are able to attend the training. This might require more generous financial compensation to ensure that schools can buy in the cover needed to release staff. The theme relating to increased support from external organisation and professionals further highlights the importance of adequate training. Coaching models that provide ongoing support to implementing staff have previously been found to be effective for school-based prevention and promotion interventions (Ashworth, Demkowicz, Lendrum, & Frearson, 2018), and could provide more reassurance for school staff delivering MHL interventions in the future. More clarity is needed on the core components and implementation methods of MHL interventions, to ensure that adaptations made do not undermine the mechanisms for successful outcomes. This added clarity will reduce tensions between fidelity and necessary local adaptations.

Informed by data analysed in the current study, informal feedback from non-case study schools, interviews and focus groups with young people that received the intervention, and young advisors from a lived experience in mental health consultancy organisation, The Guide was adapted for trial in England. Adaptations were made by the training and development team at the Anna Freud National Centre for Children and Families, a registered mental health charity. Staff included trained teachers with expertise in school-based mental health programmes, and child and adolescent clinical psychologists. Ready-made lesson plans were produced to reduce preparation time covering six themes: 1) Stigma, 2) The Brain, 3) Mental Disorders, Part 1, 4) Mental Disorders, Part 2, 5) Getting Help, and 6) Stress. Each lesson was made available digitally and included a lesson plan with learning objectives and teacher guidance, PowerPoint slides, and video links. A signposting poster was also made available to schools including national-level information and support services (e.g. Youth Wellbeing Directory), quotes from students involved in the feasibility study, and space for schools to include support staff (e.g. Pastoral Lead) and local organisations and services.

A reduction of content was agreed with the intervention developer in order to incorporate more interactive approaches. The newly developed Guide training incorporated ways for teachers to facilitate discussion, debate and encourage criticality amongst students. This was accompanied by information on the different professional discourses around mental health in England, and an acknowledgement of the Canadian origin of The Guide and a predominantly biomedical model. There was also more information relating to managing potential disclosures that could arise in and following The Guide sessions. To ensure that a 'fidelity *with* adaptation' approach recommended by Lendrum and Askell-Williams (2019) was accounted for in the full trial of The Guide, a full process and implementation evaluation was conducted alongside the AWARE efficacy trial as detailed in the study protocol (Hayes et al., 2019).

Conclusion

In its original format, The Guide is exactly what it says it is: a curriculum guide designed for global application. School staff valued the "*one-stop shop*" (Sc3, P7) approach, but, as described by Castro et al. (2010), there was a tension between wanting immediately implementable lesson plans that could be delivered with fidelity by any member of school staff, and the flexibility to adapt lessons to fit the characteristics of their students and the local context. The aim of the EfW feasibility study was to adapt the imported interventions for the English school context in order to evaluate their efficacy in a cluster RCT. Data from the current study indicates that school staff believe that adapting content for the English school context goes only part of the way to ensuring the aims of the intervention are met. Suggestions for greater involvement of teachers in the design of lesson plans supports Lendrum and Askell-Williams' (2019) recommendation that interventions should be developed with the input of teachers' knowledge about best pedagogic practices in a given context, and the level of flexibility necessary to accommodate to contextual factors and students' characteristics. Creating space for local adaptation while maintaining clarity on the core components of an intervention can help to reduce tensions experienced by those implementing, and will increase the likelihood of intervention success and sustainability.

6.6   References

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7   DISCUSSION

In this final chapter, the results from the four studies presented in this thesis (Chapters Three to Six) are summarised in order to demonstrate the overall theoretical, methodological, and practical contributions to knowledge relating to school-based mental health literacy (MHL) interventions and their evaluation. A study specific discussion has already been presented in each study chapter. This chapter therefore presents the ways in which the thesis fills existing gaps in the MHL literature, and the way in which the findings from each study relate to one another and make a combined contribution to the literature. Limitations and strengths of the thesis have already been presented in each of the study chapters. This section therefore focuses more on the wider issues relating to conducting secondary analysis of data collected as part of the EfW Programme, as well as the considerable benefits. Any strengths and limitations of the thesis methodology that are not discussed in detail in the papers presented in Chapters Three to Six are also discussed, and best practices highlighted. Implications of the findings are provided both in terms of the way this thesis has informed the wider EfW Programme, and more generally, the MHL field and school-based mental health education in England. Where the thesis has given rise to new questions, or is limited in its scope or methodology, suggestions for future research are offered as well as plans for future papers that will utilise the EfW data. A final concluding paragraph summarises the unique contributions of the thesis.

7.1   Contributions to Knowledge

Figure 7.1 is a repeat of Figure 2.1 presented in Chapter Two. It is presented again here for the reader's convenience to provide an overview of the thesis in terms of the theoretical, methodological and practical contributions of each paper, and the way in which they relate to each other.

Figure 7.1 *Overview of thesis contributions*
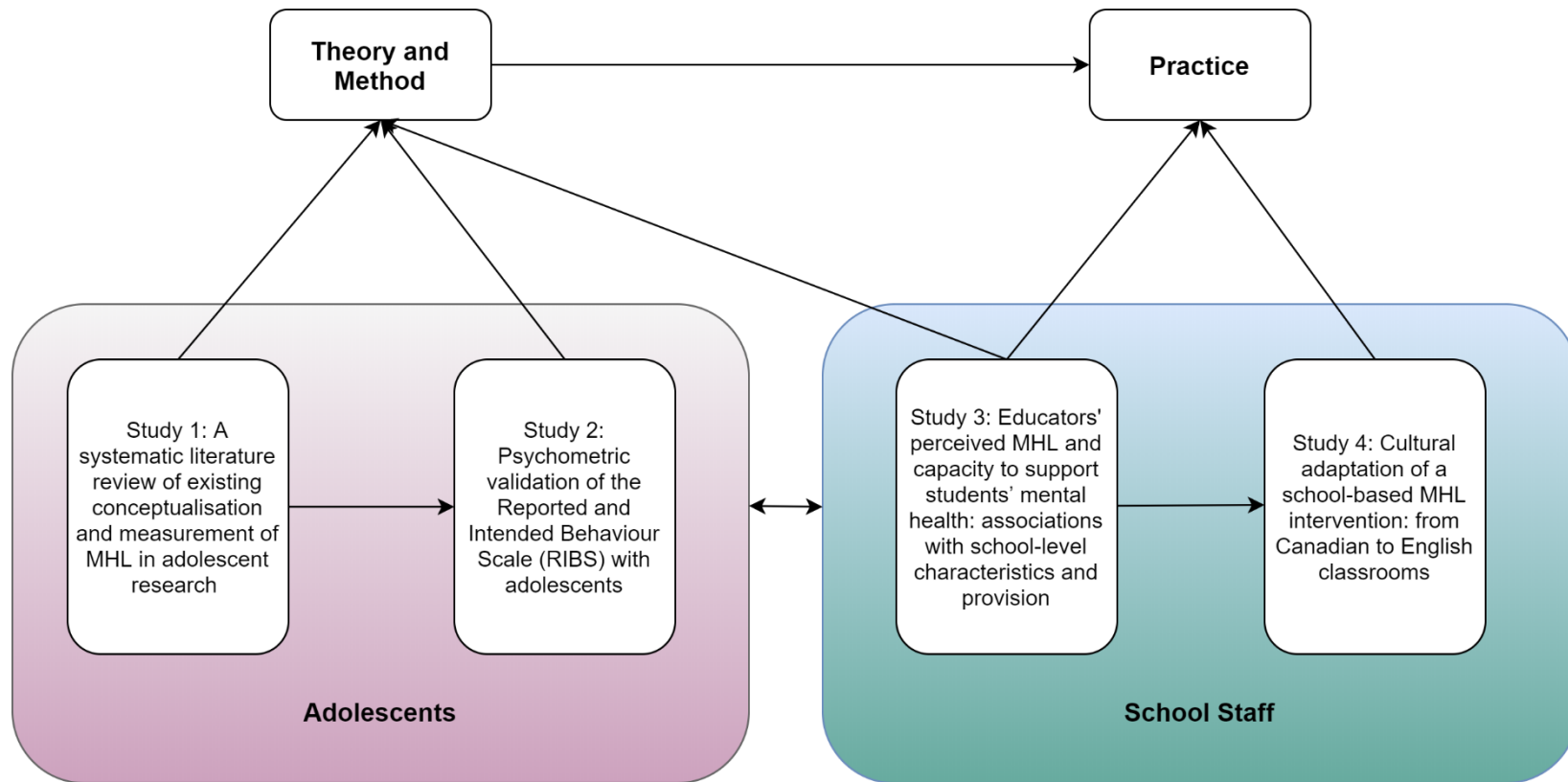
Study One

Existing reviews of MHL measurement were either based on very narrow definitions of the term (O'Connor, Casey, & Clough, 2014), or split up by individual domains (e.g. knowledge, stigma and help-seeking) (Wei, McGrath, Hayden, & Kutcher, 2016; 2017a; 2017b). They were therefore not interested in considering different conceptualisations of MHL that informed what domains were measured. Furthermore, in the health literacy field, it has been recognised that the term can be conceptualised differently for different populations (Bröder et al., 2017; Mackert, Champlin, Su, & Guadagno, 2015). In terms of the gaps identified in the literature, no review had ever investigated the definitions and conceptualisations of MHL in adolescent research, something necessary in the context of increased attention on school-based MHL interventions. There had also been no attempt to systematically review MHL research conducted with adolescents, and critically appraise, synthesise, and meta-analyse adolescent MHL data from across different research designs.

As an evolving field with new definitions and criticisms continually emerging, Study One aimed to critically evaluate MHL research conducted with adolescents. It aimed to position some of the wider conceptual and theoretical considerations relating to MHL in the adolescent literature and within the school context. By reviewing the adolescent literature in terms of the conceptualisation and measurement of MHL, Study One contributed to the theoretical understanding of MHL in the context of school-based research with adolescent samples, as well as to the future measurement of MHL with this population. The systematic review identified challenges and inconsistencies in the field, and made suggestions for future research.

Study One revealed that until 2013, MHL research conducted with adolescents was predominantly from Western, developed countries, and since then, publications have been increasing globally, with the majority conducted within the school context. The review firstly revealed that there is a problem with discriminant validity in the adolescent

literature, with researchers measuring the same constructs but under different labels (Marsh, 1994; Spiker & Hammer, 2018). The review also revealed that under half of the articles that used the term MHL defined it. Those that did predominantly adopted the original definition by Jorm et al. (1997); however, different interpretations and adaptations of Jorm's definition clearly led to conceptual confusion and a lack of construct travelling. Specifically, a number of researchers described beliefs and stigma as a construct separate to MHL, and articles predominantly referred to mental-ill health as opposed to mental health and varying degrees of psychological distress (Chambers, Murphy, & Keeley, 2015; Read, 2007).

Unlike the health literacy field, Study One revealed that the most frequently adopted definitions of MHL presented by articles were those originally developed for adults. More recent definitions had therefore seemingly not replaced the first definition presented by Jorm et al. (1997). There was no evidence of definitions specifically developed for the adolescent population (Bröder et al., 2017). Although it might not be necessary to have age specific definitions of MHL, the review showed that this could have led to a lack of MHL measures developed and validated with adolescent samples. Furthermore, unlike integrated models of health literacy (Sorensen et al., 2012), the definitions and models of MHL most frequently adopted in identified articles did not acknowledged the life course, or the unique social structures and vulnerabilities of adolescents. They also focus on the individuals' abilities, and ignore the interaction with social and contextual demands. Newer definitions of MHL explicitly include understanding how to obtain and maintain positive mental health and stigma reduction (Bjørnsen, Eilertsen, Ringdal, Espnes, & Moksnes, 2017; Kutcher, Wei, & Coniglio, 2016). In theory they therefore acknowledge the complete mental health state beyond the dichotomy of illness and wellness (Keyes, 2005), though Study One revealed that these domains were less often measured.

The MHL coding framework developed for Study One to assess which MHL domains were measured by studies, is a theoretical contribution in its own right (see Figure 7.2, a repeat of Figure 3.1 presented again for the reader's convenience). The framework, informed by existing definitions of MHL, clearly delineates the broad domains of MHL such as recognition, knowledge, stigma and beliefs, provides the object of these domains (e.g. mental illnesses, mental health prevention and promotion, and help-seeking), and makes a distinction between intra-personal vs. inter-personal constructs (e.g. self-stigma vs. stigma towards others, and help-seeking intentions vs. confidence helping others). The framework provides a clear starting point for understanding MHL as a multi-construct theory, acknowledging the complexity of each individual domain. For example, by applying existing theories of stigma (Corrigan, 2012), and help-seeking behaviour (Ajzen, 1991), it helped to identify how comprehensively and consistently these domains are assessed in the MHL literature. It also helped identify the MHL domains most commonly associated with the use of the term, helping to clarify the conceptualisation of MHL in adolescent research to date, and how this differs across study designs and contexts.

The framework also provides a model of MHL domains that can be used when developing school-based MHL interventions. Recently, Cairns and Rossetto (2019) criticised research relating to MHL interventions, suggesting that more mediation analysis was needed to identify the 'active ingredients' of MHL interventions that show effectiveness. Often, school-based MHL interventions lack clear logic models and mechanisms of change, this could, in part, be due to a lack of analyses that test the interaction between the complex domains. Using models such as this could inform structural equation models (SEM) to better understand the mechanisms for reduced stigma and increased help-seeking.

Figure 7.2 *Mental health literacy coding framework* (Mansfield et al., 2020)

Recognition		
The ability to recognise mental illnesses or different types of mental distress		
Knowledge about mental illnesses *Knowledge of causes and risk factors, symptoms, treatments and prognosis of mental illnesses.*	**Knowledge of prevention and promotion of mental health** *Knowledge of how to obtain, maintain and promote positive mental health including self-help interventions.*	**Knowledge about help-seeking** *Knowledge of how, when and where to seek mental health information and informal and professional help.*
		Intra-personal / Inter-personal
Mental illness stigma *Attitudes and beliefs, emotional reactions, behavioural intentions and actual discriminatory behaviour relating to mental illness and individuals with lived experience.*		**Help-seeking beliefs** *Confidence and self-perceived help-seeking knowledge, perceived helpfulness of referrals, help-sources and treatments, help-seeking intentions, stigma towards help-seeking, perceived help-seeking barriers and actual help-seeking behaviours.*
Intra-personal / Inter-personal		Intra-personal / Inter-personal
Personal / Perceived / Personal / Perceived		

Help-seeking knowledge was more often inter-personal, relating to someone else experiencing mental health problems. Items mostly related to knowledge of help-sources (e.g. formal and informal individuals such as general practitioners (GPs) or family members), and helping-seeking actions. Few articles assess awareness of services and organisations. Mental illness stigma and help-seeking beliefs were the most commonly assessed domains overall. As a complex and multi-faceted construct, there was a lot of variation in the dimensions of stigma assessed by MHL research conducted with adolescents. Again, inter-personal stigma was more commonly assessed; however, personal stigma i.e. the beliefs of the participant vs. the perception of other people's beliefs, was measured by the majority of articles identified. Attitudes and beliefs were the most commonly assessed dimension of stigma along with behavioural intentions such as

hypothetical social distancing. Very few articles assessed actual discriminatory behaviours. Similarly, inter-personal help-seeking beliefs were more common than intra-personal, and help-seeking intentions were the most common dimension assessed along with the helpfulness of referrals, help-sources and treatments, supporting previous reviews of measurement tools (O'Connor et al., 2014). Although more studies assessed actual help-seeking behaviours when compared with discriminatory behaviours, few articles reported behaviours as well as intentions.

The ultimate goal of many MHL interventions is to reduce stigma and increase help-seeking behaviours; however, Study One indicated that behaviours were less frequently assessed and therefore could be perceived not to fall under the construct of MHL. There were also differences in domains measured across different study designs. Knowledge and stigma relating to mental illnesses was more commonly assessed in intervention studies compared with population, survey-based studies. In contrast, population studies assessed recognition, knowledge of prevention and promotion of mental health, and help-seeking more frequently, as well as help-seeking beliefs. In terms of the conceptualisation of MHL, these findings suggest that recognition and help-seeking related domains may be more directly related with the MHL construct, and that mental illness stigma may be a more common desired outcome for MHL interventions (Wei, Hayden, Kutcher, Zygmunt, & McGrath, 2013).

Study One also provided a review of MHL-related measures that had evidence of validity for use with adolescent samples. It highlighted a gap, suggesting that more psychometric work is needed to develop and validate age appropriate measures that capture the complexities of different MHL domains. The review therefore supported a multi-construct theory approach to MHL as suggested by (Spiker & Hammer, 2018). Although there were a limited number of validated scales, the review contributed to future methodology for population and intervention-based MHL research conducted with adolescents by providing

the available measures. Levels of heterogeneity in the field were such that a meta-analysis of adolescent MHL data was not possible.

Study Two

One measure, originally developed for adults in the UK, but starting to be adopted in adolescent research, was the Reported and Intended Behaviour Scale (RIBS). Given that the review identified a limited number of studies that assessed stigma in terms of both intentions and behaviours, and that stigma related constructs are one of the most commonly assessed domains when evaluating school-based MHL interventions, assessing the psychometric properties of RIBS for use with adolescents seemed worthwhile. Beyond the findings of Study One, previously identified gaps in the literature included an underrepresentation of adolescents in the stigma literature, and a limited number of reliable and valid measures for this population. Furthermore, findings are mixed in relation to the extent to which intended behaviours, which are commonly measured, predict actual behaviour change (Eisenberg, Speer, & Hunt, 2012; Ten Have et al., 2010; Thornicroft, Rose, & Kassam, 2007).

By assessing the psychometric properties of RIBS for use with adolescents, Study Two contributed to future methods for monitoring discriminatory behaviours in adolescent populations, and evaluating school-based interventions aiming to reduce negative attitudes, intentions, and ultimately, behaviours. This contribution was recently evidenced by a citation of Study Two in an article presenting the evaluation of a school-based stigma reduction and mental health promotion intervention called Ending the Silence in high-schools in New York (DeLuca, Tang, Zoubaa, Dial., & Yanos, 2020). Study Two also aimed to make a theoretical contribution by conducting SEM to assess the factor structure of RIBS, and the relationship between factors and related measures and constructs.

The two-factor structure of reported and intended discriminatory behaviours previously identified with adults and university students (Pingani et al., 2016; Yamaguchi, Koike,

Watanabe, & Ando, 2014) was confirmed in Study Two, with high levels of internal consistency for the intended behaviour scale. A moderate to large association was found between reported and intended behaviours, suggesting that hypothetical or intended behaviours are in fact related to actual behaviour (Ten Have et al., 2010). However, ceiling effects were found for intended behaviours relating to various degrees of social contact with an individual experiencing mental health difficulties, in line with the adult literature (Evans-Lacko et al., 2011). Similar distributions in responses for intended discriminatory behaviours were also found, such that adolescents reported higher levels of agreement for items relating to hypothetically more distant relationships (e.g. living nearby) (Pingani et al., 2016; Yamaguchi et al., 2014). Although reported and intended behaviours were associated, fewer reported behaviours than intended behaviours, in particular when involving less social contact, support previous claims that hypothetical behaviour may not translate into behaviour change (Eisenberg et al., 2012; Thornicroft et al., 2007).

In addition, tests for construct and convergent validity contributed to theory in terms of the way in which intended behaviours towards individuals experiencing mental health difficulties relate to intended help-seeking and stigma-related knowledge in an adolescent sample. Intended behaviours were not found to be significantly associated with intended help-seeking, as measured by the General Help-Seeking Questionnaire (GHSQ). This could be due to the fact that the intended behaviour scale is inter-personal, relating to behaviour towards others, and the GHSQ is intra-personal, relating to help-seeking for self. This finding adds to the literature that suggests that stigmatising attitudes decrease the likelihood of young people seeking help (Gulliver, Griffiths, & Christensen, 2010), by suggesting that attitudes and intentions relating to others may not predict a young person's intentions to seek help for themselves. The findings from Study Two relate to Clement et al.'s (2015) review, although this was not focused on adolescents, that showed treatment stigma and internalised stigma are more strongly associated with help-seeking.

Assessments of differential item functioning (DIF) and measurement invariance across gender and age groups made a further contribution to the literature. Overall, some group differences were found across RIBs items, and younger adolescents ages 11-13 and females reported more positive intended behaviours towards individuals experiencing mental health difficulties. These findings added to previous literature that found adolescent males reported more stigmatising attitudes (Williams & Pow, 2007; Yoshioka, Reavley, MacKinnon, & Jorm, 2014), by finding that they also report more intended discriminatory behaviours. Furthermore, results contribute to mixed findings relating to age differences in stigmatising attitudes (Jorm & Wright, 2008). Full configural measurement invariance was found in Study Two following multi-group confirmatory factor analyses (CFA) for gender and age group (early adolescents (11-13 years) vs. mid adolescents (13-15 years). However, only partial scalar measurement invariance was found across groups.

Methodologically, Study Two contributes to the growing body of literature that applies advanced psychometric techniques (MIMIC models and multi-group CFA) to assess DIF and measurement invariance. This is important for assessing the homogeneity of psychometric properties of scales across groups known to produce mean differences, as scalar invariance impacts on the accuracy of analysis based on mean comparisons (Steinmetz, 2013). Of particular interest in Study Two was age differences, given that RIBS was originally developed for an adult sample (Evans-Lacko et al., 2011). Study Two utilised readability formula to assess the content validity and interpretability of RIBS for use with an adolescent sample. Although psychometrically RIBS appeared to be a valid scale for use with adolescents, readability assessments suggested caution should be taken in terms of interpretability and responded burden for adolescents under the age of 14 years. In particular, the introductory text had a high reading age exceeding the recommended reading age for adult measures (12 years old; Terwee et al., 2007).

The focus on age appropriateness of measurement in both Study One and Study Two adds to a body of work that I have contributed to throughout my PhD. For example, I have co-authored a paper exploring the age appropriateness of the widely used self-report Strengths and Difficulties Questionnaire (SDQ) (Black, Mansfield, & Panayiotou, 2020), which revealed that the readability of items was incredibly varied and that the original proposed factor structure was inadequate. Furthermore, the study also investigated measurement invariance between year 7 (11-13 years) and year 9 (13-15) students, and found no group differences. I have also co-authored a paper presenting a qualitative exploration of children and young people's (CYP) experiences of completing mental health and wellbeing measures as part of two school-based pilot research projects (Demkowicz et al., 2020). From this study, we were able to provide practical recommendations for researchers carrying out survey-based research with CYP in the school context, to ensure that procedures are ethical and prioritise the experiences of CYP. These procedures should, in turn, have implications for obtaining reliable and valid mental health and wellbeing data.

The conceptual and methodological findings raised in Study One and Study Two have implications for the components that make up school-based MHL interventions, and the domains measured in order to evaluate the mechanisms of change and overall effectiveness. Figure 7.1 therefore shows a relationship between the theoretical and methodological contributions and practice. Similarly, a bi-directional relationship is shown between studies relating to the recipient population (adolescents) and those responsible for the implementation of school-based MHL interventions. What consists of a MHL intervention and its desired outcomes impacts those responsible for its implementation, and for some teacher-led mental health education interventions (e.g. The Guide), educator MHL is the proposed mechanism through which the intervention produces improved student outcomes (Kutcher, Wei, & Morgan, 2015; Miller et al., 2019).

Study Three

In line with suggestions that general health literacy can be conceptualised differently for unique populations (Mackert et al., 2015), Study Three aimed to contribute to the theory and methods relating to measuring educator MHL. Few scales were identified that were developed for assessing the MHL of educators, particularly in the context of improving school-based mental health provision. The Mental Health Literacy and Capacity Survey for Educators (MHLCSE) developed in Ontario, Canada, was selected as a scale developed to inform a multi-level, multi-agency approach to school-based mental health provision (Fortier, Lalonde, Venesoen, Legwegoh, & Short, 2017). The authors applied a tiered approach to educators' responsibilities, from mental health promotion and stigma reduction in the classroom, to identifying students experiencing difficulties and making referrals, and bridging the gap between support offered within school and support offered by external services.

Although the psychometric properties of the scale had not yet been assessed, the model of MHL applied aligned with an approach beyond a reactive focus on recognition of mental disorders, including confidence talking with students about mental health and comfort providing active support in the classroom. It was therefore perceived to be a useful way to identify possible gaps in educators' perceived level of understanding, comfort and capacity to support students' mental health and deliver mental health content. With findings to suggest that despite teachers being able to recognise symptoms of mental disorders, many report a lack of confidence acting on their concerns, it was important to understand educators' level of comfort with supporting students' mental health in England, where a lack of evidence relating to educators' MHL and capacity was identified.

Study Three examined the factor structure and internal consistency of the MHLCSE, and assessed educators' responses in relation to supporting students' mental health across over 200 schools in England. The original three-factor structure proposed by Fortier et al.

(2017) (awareness, knowledge and comfort) was not confirmed. Awareness and knowledge were not found to be separate constructs, instead an exploratory factor analysis (EFA) found four factors with items organised by the topics of perceived awareness and knowledge i.e. 'awareness and knowledge of mental health issues', 'treatments and services', and 'legislation and processes'. The fourth factor mapped onto the original comfort sub-scale proposed by Fortier et al. (2017). However, this was renamed as 'comfort providing active support'. The alternative four-factor structure was further supported by high-levels of internal consistency for all sub-scales identified. Study Three therefore contributed valuable evidence of MHLCSE's psychometric properties for use in future research.

In terms of contributing to knowledge by identifying gaps in educators' MHL and capacity across English schools, Study Three found that compared to awareness and knowledge of mental health issues, including signs and symptoms and risk factors, and comfort providing active support, educators reported relatively lower levels of awareness and knowledge of legislation and processes relating to supporting students' mental health as well as treatments and services. These results support previous research that found teachers in England reported a lack confidence in acting on their concerns about a student (Loades & Mastroyannopoulou, 2010), suggesting that it is because they lack awareness about the processes of how and where to refer and signpost to. At an item level, educators reported less comfort talking with parents about students' mental health, and there was variability in educators' overall comfort providing active support to students, indicating that, like research conducted in Australia suggested, a number of educators lack confidence in this area (Jorm, Kitchener, Sawyer, Scales, & Cvetkovski, 2010).

In addition to presenting educator-level data, and providing a psychometric assessment of a new measure of educators' MHL and capacity, Study Three also made a contribution to knowledge relating to practices in English schools. Up-to-date figures relating to schools'

mental health provision in England were reported. Specifically, designated roles, training offered to staff, and perceived barriers to providing effective mental health support to students. This was useful for understanding provision in light of new policy in England that is increasing the responsibility of schools to support students' mental health (Department of Health and Education, 2017). It provided a picture of the English school context in terms of the resources and structures that could influence the successful implementation of a MHL intervention such as The Guide, and therefore relates to Study Four.

Overall, Study Three revealed that compared with previous surveys of schools' mental health provision conducted in the United Kingdom (UK) (Department for Education, 2017), the number of schools reporting a designated mental health lead has increased by approximately 20%. Over 70% of schools in Study Three reported a member of staff in this role; however, the responsibilities of this individual were varied. Furthermore, over 90% of schools reported offering mental health training to at least some members of staff within the school. These high figures do indicate an increased priority afforded to mental health within schools in line with policy recommendations. However, the barriers to providing effective mental health provision reported aligned with those found in previous research (Day, Blades, Spence, & Ronicle, 2018; Patalay et al., 2016; Sharpe et al., 2016; Vostanis, Humphrey, Fitzgerald, Deighton, & Wolpert, 2013). For example, poor communication with external agencies and a lack of capacity in Child and Adolescent Mental Health Services (CAMHS).

Most training being offered by schools was delivered by internal members of staff, in line with the reported lack of contact with external mental health professionals. Approximately half of the schools in Study Three reported that the designated mental health lead was responsible for training other staff within school. Furthermore, Study Three revealed that most training related to recognition of and knowledge relating to risk factors, signs,

symptoms and treatments for mental health difficulties. This shows a more reactive approach, previously identified in English schools (Patalay et al., 2017). Less training was offered to school staff relating to stigma reduction and mental health promotion. Models of educator mental health training in England therefore appear to fit with trends in literature identified in Study One i.e. a predominantly mental-ill health approach to recognition and early intervention as opposed to the promotion of positive mental health. There was also relatively less training relating to legislation and processes for referral and accessing services, which was an area that educators reported lower perceived awareness and knowledge. Secondary schools reported significantly higher levels of training provision, supporting previous literature (Patalay et al., 2017), and were more likely to have a designated mental health lead. They also had significantly higher levels of educator MHL and capacity when compared with primary schools.

The main aim of Study Three was to model possible school level-predictors, relating to their characteristics and mental health provision, against educators' MHLCSE outcomes. No study could be identified that modelled both individual and school-level predictors of educators' MHL and capacity to support students' mental health. Study Three therefore made a theoretical contribution, testing conceptual frameworks for school-based, preventive interventions that recognise that educators' capacity is, in part, dependent on school-level characteristics (Domitrovich et al., 2008). Results provide knowledge relating to what school-level practices can increase educators' MHL and capacity, and to what extent, school-level characteristics and provision account for variations in educators MHLCSE outcomes.

Overall, Study Three found that little variance in educators' perceived MHL and capacity was accounted for by schools and school level variables. The only significant predictor of MHLCSE outcomes was schools' training total score, which indicated the level of opportunity offered to staff for mental health related training in general within the school.

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Higher training scores at the school level predicted significantly higher perceived awareness and knowledge relating to mental health issues, treatments and services, legislation and processes for support students' mental health, and comfort providing active support. Having a designated mental health lead within school did not increase educators' perceived MHL and capacity; however, this could have been due to the varied responsibilities reported for mental health leads across schools with only half of schools reporting that this individual provided training to other staff. Unexpectedly, barriers to providing effective mental health provision at the school level did not predict educators' MHLCSE outcomes. This could relate to the fact that fewer schools reported staff capacity and negative attitudes as a significant barrier to effective school mental health provision when compared with a lack of capacity and communication with CAMHS.

Despite relatively little variance in educators' perceived MHL and capacity being explained by schools and school level variables in Study Three, the level of training offered at the school-level was a significant predictor of MHLCSE outcomes. Furthermore, the study revealed a number of gaps in educators' awareness, knowledge and comfort and provided an up-to-date picture of roles and mental health training provision, as well as the barriers experienced by schools in England for supporting students' mental health. The findings of Study Three therefore provide some context for Study Four, which explored the cultural adaptations of an imported school-based MHL intervention.

Study Four

Study Four provides an in depth qualitative investigation of the adaptations made and suggested to The Guide within the English school context as part of the EfW feasibility study, when, why, and by whom. Findings relating to school staff's content knowledge and capacity to implement universal, mental health curricula, extend from the barriers and gaps in awareness and knowledge identified in Study Three. Study Four contributes an example of an investigation of the adaptation process and implementation of a Canadian MHL

intervention (The Guide) within the English school context. It therefore predominantly has practical implications for developing culturally flexible and feasible school-based mental health curricula, and can be linked to the introduction of compulsory mental health education in England, providing evidence on what is currently appropriate, acceptable and feasible.

As previously described, the conceptualisation of MHL has implications for the development and implementation of related interventions. Study Four therefore also relates to issues of MHL conceptualisation highlighted in Study One, identifying the importance of cross-cultural mental health discourses and cultural mismatches in terms of what are deemed appropriate and helpful components of a MHL curriculum. Study Four is the only known qualitative investigation of the cultural adaptation of a school-based MHL intervention. It comes at a time when school-based MHL interventions are increasingly being culturally adapted and trialled outside of their country of origin, and therefore provides a valuable contribution.

The adaptations made and suggested to The Guide's content by school staff in Study Four included dropping and emphasising content, specifically, emphasising lived experience and student voice, and adapting language, examples and references. Proactive adaptations were most common, and those relating to The Guide's implementation methods in order to include more interactive and student-led approaches. Despite school staff generally appreciating the extent of information and materials in The Guide to select and adapt for their students, in its current form, The Guide was not perceived to be appropriate or feasible to implement in the English school context. A proactive approach to adaptation, making changes in advance of implementation due to a perceived lack of fit, is advised in existing models of cultural adaptation (e.g. ecological validity model (EVM); Bernal, Bonilla, & Bellido, 1995; Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009, and the cultural sensitivity model (CSM) (Resnicow., Soler., Braithwaite., Ahluwalia., & Butler,

2000; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999). Furthermore, this finding supports the predominantly proactive adaptations reported by teachers in England to the Promoting Alternative Thinking Strategies (PATHS) curriculum (Lendrum and Askell-Williams, 2019).

Using a hybrid analysis technique, logistical and philosophical codes based on existing models of adaptation (e.g. Humphrey et al., 2016; Moore, Bumbarger, & Cooper, 2013), were used to organise reasons for schools' overall approaches to planning and delivery, as well as adaptations made and suggested to The Guide's content and implementation methods. Three themes were identified under the logistical reasons for adaptations: *Staff Capacity and Expertise*, *Timetabling,* and *Accessibility of Resources*. Philosophical reasons included: *Consistency of Messages*, *Student Characteristics*, *Reducing Stigma and Empowering Students*, *National and Local Context*, and *Appropriate Pedagogic Practices*.

Logistical constraints supported previous studies of teachers' adaptations to PATHS, and to a substance misuse prevention intervention called 'keeping it REAL' (kiR) (Lendrum & Askell-Williams, 2019; Miller-Day et al., 2013). Solutions provided by school staff in Study Four to overcome issues of time capacity, timetabling issues and difficulty accessing resources, were to allocate more time to planning in The Guide training, and provide comprehensive and interactive lessons plans that could be immediately implemented by any member of staff within school. When combined with the barriers to providing effective school-based mental health provision from Study Three and previous literature (Patalay et al., 2016; Sharpe et al., 2016; Vostanis et al., 2013), Study Four highlighted the importance of increasing staff capacity through creating links with external mental health professionals. In addition, Study Four revealed the importance of adequate training, attended by a member of senior leadership and those assigned to plan and implement the intervention. This finding supported previous literature that found support from senior

leadership predicts successful and sustainable implementation of school-based mental health and wellbeing initiatives (Askell-Williams, 2017).

Findings relating to school staff's specific content knowledge were unique, with content being dropped due to a lack of staff confidence, and suggestions for increased support from external organisations and professionals. Unlike the social emotional learning content in PATHS, The Guide's content was perceived to require professional subject knowledge, and should be delivered by school staff with the most experience delivering mental health content with the support of mental health professionals. School staff also recognised the potential detrimental effects of inconsistent delivery of The Guide content for stigma reduction. Not only were staff concerned about various teaching styles, they also understood the potential for the adoption of different professional mental health discourses and the associated knowledge and beliefs (Zeeman & Simons, 2011).

Although stigma reduction was one of the original goals of The Guide curriculum, school staff reported dropping, refining and adding content in order to achieve this aim and encourage help-seeking. For example, emphasising content relating to lived experience and student voice, and related to this, developing interactive and student-led discussions, activities and group work to empower students and give them more ownership over their learning. Furthermore, adaptations to language were reported as a way to change messages relating to a biomedical approach to mental illness to avoid causing stigma. Student characteristics such as ability and ethnic and cultural background were also a driver for adaptations to The Guide, as well as characteristics of the local and national context e.g. available services. Ultimately, philosophical reasons for adaptations made and suggested related to making The Guide as relevant, and therefore as helpful to students as possible.

A major criticism of The Guide was the implementation methods. School staff felt that without adapting the delivery methods of The Guide, it would not achieve the desired outcomes of stigma reduction and empowering students to seek help. Adaptations to the

delivery of sessions was informed by pedagogic practices perceived to be appropriate within the English school context. National standards for teaching practices were mentioned in relation to school staff dropping the number of PowerPoint slides and replacing them with interactive and student-led discussions, activities, and group work. Knowledge of learners and their characteristics as well as pedagogic content knowledge were identified as drivers for adaptations to PATHS in previous research (Lendrum & Askell-Williams, 2019). The findings from Study Four therefore indicate that interventions across topics require input from teachers in the adopting country relating to appropriate pedagogic practices. The overall recommendations from school staff in Study Four were for immediately implementable lesson plans with input from teachers in England, with clear core components of The Guide, but with built in flexibility to accommodate for the local context and student characteristics.

Taken together, the four studies presented in this thesis make theoretical, methodological and practical contributions to knowledge. For example, the thesis adds to understanding of the conceptualisation and measurement of MHL in adolescent research, highlighting challenges and inconsistencies and providing available measures for use with adolescent samples. It contributes psychometric assessments of MHL-related measures for both the recipient group of school-based MHL interventions (adolescents), and those responsible for implementing them (educators), helping to inform evaluations of their effectiveness and research to understand educator MHL as a mechanism for change. The thesis also contributes knowledge relating to current practices in schools in England, and the way in which school-level characteristics and mental health provision predict educators' perceived MHL and capacity to support students' mental health. Related to this, the thesis offers an example of qualitative research exploring the cultural adaptation and implementation of an imported school-based MHL intervention, providing further contributions to practice with recommendations for developing easily deliverable but culturally flexible interventions for

successful and sustainable implementation in England. Findings from Study Four also bring into focus the broader question of what level of adaptation must be exceeded for an intervention to no longer be true to the original, and highlights the importance of clear core components and mechanisms of change.

7.2   Strengths and Limitations

Conducting my PhD alongside the EfW Programme led to both methodological strengths and limitations of the studies presented in this thesis. Given that Study One was a systematic literature review, the strengths and limitations of this paper were not related to the wider programme of work. Instead, these related to the scale of the review and the inconsistencies of the studies identified. For example, the inclusivity of the review is both a strength and a weakness. In order to understand issues of discriminant validity, the review included all articles with extractable adolescent data for at least one domain of MHL. This resulted in over 200 articles being identified, and demonstrated that researchers were measuring the same constructs but under different labels. Only articles that explicitly used the term 'mental health literacy' (or a diagnosis-specific equivalent e.g. 'depression literacy'), were included beyond this point. This criteria inevitably meant that some articles that used the term did not in fact intend to measure the whole construct, similarly, studies that assessed multiple domains of MHL but did not use the term were excluded, losing data at a domain level.

Despite the exclusion of some potentially relevant data on specific MHL domains, this criterion was considered most appropriate given one of the aims was to assess the conceptualisation of MHL in adolescent research. Furthermore, in order to understand which domains were commonly associated with the MHL construct, research was assessed on an article as opposed to a study level. This has implications for the true amount of extractable data. However, given the lack of consistency in the field, there are currently not enough methodologically homogeneous studies to consider meta-analysis. Due to many

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articles presenting data on an item level, MHL domains were coded at this level. This does mean that some papers that measured multiple domains in one scale and presented a total mean score had some hidden data at an item or sub-scale level. A lack of psychometric work to assess factor structure of scale-based measures in this age group, and the large number of articles presenting data on an item level, makes understanding the relationship between domains and meta-analysing data at both a domain and a construct level challenging.

Considerable thought was also given to the exclusion of university students in the systematic literature review. It must be acknowledged that some articles with relevant data within our defined age range will have been lost due to excluding this population. However, there were a number of justifications for this decision. Firstly, unlike schools in most countries, universities are not universal, with only a sub-set of young people entering higher education. University students were therefore perceived to be a unique population and could not be considered representative of the adolescent population. Furthermore, studies with a focus on university students covered a range of courses, some of which (e.g. health-based subjects or psychology) would inevitably produce results that were not comparable to school-based adolescent samples. Secondly, on assessment of a number of university student MHL studies, the age range often extended above the WHO definition of adolescence (10-19 years). In order to be consistent, a criteria was set for age whereby if the sample mean fell outside of the range the article was excluded. If no mean was presented and the age range fell outside of the criteria, the article was only included if results were presented for sub-groups e.g. 12-17 years from a sample 12-25. Despite very few articles being lost, the exclusion of articles relating to mental health difficulties less common in adolescence (e.g. post-partum depression) can be seen as a limitation of this review.

Despite some exclusions, Study One was the first attempt at critically appraising, synthesising and meta-analysing MHL research conducted with adolescents across different research designs (i.e. population surveys and intervention evaluations). This was a challenge. Large numbers of studies were identified that assessed domains of MHL, and methods were incredibly heterogeneous. It was quickly apparent that meta-analysis was not possible, and that even a narrative analysis of this many articles was not within the scope of one paper. Given that there were so many inconsistencies with the conceptualisation and measurement of the MHL construct, the review became focused on these two issues and provided an overview of MHL domains measured, and the available scales with evidence for validity with adolescent samples.

In order to present MHL-related measures with the most comprehensive psychometric assessments, and explore the homogeneity of measurement across articles, Study One provided an overview of measures for which there was an article with the primary aim of establishing its psychometric properties with an adolescent sample. It should be acknowledged that some articles adapted adult measures and tested for face and content validity with child and adolescent mental health professionals, and internal reliability and comprehension with adolescent samples. The application of quality criteria for psychometric studies such as the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) would have improved Study One. However, the review identified only a handful of psychometric studies. Given the lack of psychometric work to assess factor structure of scale-based measures with adolescents, and the large number of articles presenting item level data, this did not feel like a worthwhile step. To assess the original articles that presented the psychometric properties of scale-based MHL measures identified in Study One, would have been to conduct another review, and this was not possible within the PhD timeline. The reviewers of the systematic literature review, and the editor at *BMC Public Health,* gave commendations for the useful

contribution that the paper makes to the field, describing the review as admirable work with interesting data and suggestions for how to improve the field.

As a study conducted using secondary data from the EfW feasibility study, Study Two was determined by the scales selected for inclusion in the measurement framework that did not yet have evidence for use with adolescent samples. Ideally, I would have developed a MHL related measure with input from adolescents, mental health professionals and teachers, to overcome the lack of scale-based measured developed and then comprehensively assessed for their psychometric properties for use with adolescents. However, the EfW Programme did not allow for such preliminary research, and therefore Study Two was limited to conducting a comprehensive psychometric assessment of a MHL related measure, originally developed for an adult sample, for use with adolescents. The specific focus on the Reported and Intended Behaviour Scale (RIBS) came from this being identified in Study One as an increasingly used measured in MHL research conducted with adolescent, but with no evidence of its age appropriateness. The selection of RIBS was also informed by the lack of measurement of stigma related attitudes, intentions and behaviours in MHL research conducted with adolescents.

The benefit of conducting a secondary analysis of data collected as part of the EfW feasibility study was a large sample. Responses from over 1,000 adolescents were analysed in Study Two, ensuring that the analyses were powered. Unfortunately, a limited amount of demographic information was available for the sample, as data from the National Pupil Database (NPD) were not requested for the feasibility study. Although the sample provide data from adolescents across a spread of schools from South East England, it was not possible to confirm that the sample was representative in terms of ethnicity and socio-economic status compared to England. Furthermore, as a secondary analysis, the age of adolescents was determined by the target age of interventions being trialled as part of the EfW Programme. This resulted in a convenience sample with early (11-13 years) and mid

adolescents (13-15 years). The age measurement invariance therefore used these existing groupings and was not predetermined.

Another limitation of analysing secondary data from the EfW feasibility study was that, due to my systematic literature review being conducted after the baseline surveys for the feasibility study, it could only inform the inclusion of additional scales in the feasibility follow surveys, which in turn, would inform their inclusion in the main trials. Study Two was therefore based on the feasibility follow up data, meaning that there was potential for the different interventions to influence adolescents' responses. Stigma-related measures were secondary to the primary outcomes of interventions. All mid adolescents were allocated to interventions with a secondary aim of reducing stigma; however, there were also a number of early adolescents allocated to an intervention with stigma-related components. The fact that early adolescents were found to have lower levels of intended discriminatory behaviour towards individuals experiencing mental health difficulties in Study Two indicated that the intervention group did not cause a bias in the likely direction. Although the study reported mean differences between age groups, it was primarily interested in the internal consistency, floor and ceiling effects, construct and convergent validity, content validity, and interpretability of RIBS, so the use of follow up data was not perceived to be a major limitation of the work.

In terms of comprehensively assessing the psychometric properties of RIBS for use with adolescents, Study Two has a number of strengths. Due to the use of follow up data, no assessment of test-retest reliability was conducted; however, all other relevant criteria for psychometric quality outlined by Terwee et al.'s (2007) were assessed. It also had the added contribution of conducting a full readability assessment of RIBS to inform the extent to which RIBS was interpretable for adolescents. Advanced psychometric analyses were adopted, providing an example of best practices for assessing factor-structure, internal consistency using multiple indicators, and SEM for exploring DIF and measurement

invariance. Adopting these advanced techniques provides a template for other researchers to assess the psychometric properties of a construct across groups before conducting tests of differences using mean scores.

Similarly, although it was not the primary aim of Study Three to present a psychometric assessment of an educator MHL scale, it has similar strengths to Study Two in that it applied SEM to assess the factor structure of the Mental Health Literacy and Capacity Survey for Educators (MHLCSE) and multiple assessments of internal consistency. Study Three was also a secondary analysis of EfW data, this time from the baseline survey responses from school staff involved either the AWARE or INSPIRE trial. It therefore benefited from a large sample of over 700 educators from over 200 schools across England. Demographic information indicated that the sample was mostly representative of the ethnicity of the school workforce in England, and included educators of a range of ages and experience. Samples with this number of teachers across this number of schools are rare, therefore using data collected as part of the EfW Programme offered the unique opportunity to be powered enough to conduct a multi-level model of individual and school-level predictors of educators' MHL and capacity.

Having said this, the cluster size in Study Three was determined by the requirements of the AWARE and INSPIRE trials for the number of school staff allocated to implement the interventions. The average cluster size was therefore relatively small and it should be acknowledged that a larger number of educators per school could have produced more accurate estimates of school-level variance (ICCs). Furthermore, there was a large amount of missing data in Study Three, in part due to the merging of individual and school-level surveys. However, imputation methods were used to reduce the potential biases in estimates produced by missing data, and sensitivity analysis were presented for full transparency in terms of the influence that imputation had on the results.

As was the case for Study Two, Study Three also lacked some demographic information and would have benefited from further assessments of educators' characteristics at the individual level, to better understand the within school variance in MHLCSE outcomes. For example, because interventions were developed to be delivered by classroom teachers, it was assumed that those responsible for implementing the interventions would be in this role. The EfW Programme therefore did not collect data relating to the role(s) held by educators. This can be seen as a limitation of Study Three, as it was unable to explore the amount of variance in perceived MHL and capacity explained by educators holding various roles within the school (e.g. classroom teacher and SENCO). In addition, previous research has shown that direct and indirect experiences of mental health difficulties predict higher levels of MHL (Ten Have et al., 2010); an assessment of this would therefore have helped to explain some of the within school variance in MHLCSE scores.

As a secondary analysis of cross-sectional data, the results from Study Three must be interpreted with caution. Although the mental health provision survey was informed by previous surveys conducted by the Department for Education (Day et al., 2018), the items relating to training provision offered only a general sense of the level of priority afforded to building educators' capacity within the school. It was not possible in Study Three to determine the extent to which educators had experienced and directly benefitted from the training offered. Similarly, because the mental health provision survey was completed by a self-selected key contact at the school, this individual may have held a number of different roles in the school, which could have influenced the accuracy of mental health provision reported.

The addition of an in depth qualitative study (Study Four) in this thesis can be seen as a real strength in terms of providing detailed contextual information about the English school context for implementing MHL interventions. The findings extend from Study Three in that they identify school-level structural issues as well as individual-level capacity and

expertise that influenced the adaptations made and suggested to The Guide by school staff allocated to implement it. Although the sample was relatively small, this was not perceived to be a limitation of Study Four. Instead, Study Four provided a unique, in depth account of the adaptation processes and suggested improvements to The Guide from three schools, each with a different approach to implementation, including one school that dropped out.

The hybrid thematic analysis adopted in Study Four offered a chance to explore the theoretical generalisations of cultural adaptations previously made to school-based interventions relating to other topics (e.g. social emotional learning and substance misuse prevention). The small sample size meant that the aim of the study was not to provide statistical-probabilistic generalizability, but to offer opportunities for readers to relate the findings to their own school and make generalisations and apply learning where relevant. Study Four did also provide some practical recommendations for intervention developers relating to training, lesson plans and pedagogic practices. The limitation of having a small, self-selected sample is that in signing up to the EfW feasibility study, schools indicated a certain level of priority afforded to mental health initiatives. This potential bias does not however mean that the findings of Study Four are not useful to developers trying to design appropriate and feasible school-based MHL interventions, or to schools looking for advice for implementing such interventions.

Interviews were conducted mid to late implementation, and therefore schools had not delivered the whole Guide curriculum at the time of case study visits. The benefit of conducting visits at this time was that this enabled us to conduct observations of a Guide session being delivered, making notes on the school context, implementation methods, content and student engagement. These notes helped to validate self-reported implementation from the interviews, and gave an indication of the effectiveness of adaptations made in relation to student engagement. However, observations were conducted face-to-face as part of the case study visit, and therefore only related to one

Guide session. No coding or rating criteria were used to assess the quality of implementation, this would have improved Study Four but with only two observations, these were not the primary data source.

Overall, this thesis presents a body of work that utilises a range of different methods and analyses to make theoretical, methodological and practical contributions relating to school-based MHL interventions and their evaluation. It has a conceptual element, requiring a level of criticality in order to offer suggestions for future models of MHL in adolescent literature. In addition, it has a strong focus on measurement, providing examples of advanced psychometric analyses to explore the properties of MHL-related scales for use with specific populations. The thesis is also multi-level in that it presents findings relating to the recipients and implementers of school-based MHL interventions, and the structural factors related to implementation in the English school context. As a researcher, I have demonstrated a range of skills and broad subject knowledge in order to fill identified gaps in the literature, and the thesis is a good example of a pragmatic approach to research, adopting the most appropriate methods for each research question.

7.3   Implications and Future Directions

Implications and Future Directions for the Education for Wellbeing Programme

Research timelines for the EfW Programme were tight, and so it did not always align so that the findings from my thesis could inform methodological decisions on the programme. Furthermore, these decisions were ultimately not mine to make. The EfW Programme is trialling a range of school-based mental health interventions, beyond those relating to MHL, therefore there were a range of considerations. However, results from the studies presented in this thesis have informed aspects of the EfW Programme, and provided context for the results of the trials and suggestions for future studies that utilise the EfW data.

Results from Study One, the systematic literature review of existing conceptualisation and measurement of MHL in adolescent research, informed the measurement framework for the EfW Programme. For example, we avoided the use of vignette methodology and opted for a more general as opposed to diagnosis-specific approach to MHL. Due to an attempt to reduce respondent burden, MHL was not measured as comprehensively as possible. For example, the programme did not include a measure of understanding relating to obtaining and maintaining positive mental health and mental health promotion, which I was disappointed about. Instead, the primary outcome of help-seeking was informed by the theory of planned behaviour (Ajzen, 1991), and viewed as the end goal in the process of behaviour change. We also ensured that we comprehensively measured stigma by including measures of stigma related knowledge, attitudes and behavioural intentions, and included an inter-personal help-seeking measure related to mental health first aid. This provides us with the opportunity to explore which types of stigma reduction act as a mechanism for improving help-seeking intentions in our samples.

The general conclusions from Study One also led us to move away from assessing a reactive approach to school-based mental health provision, and consider educator MHL beyond only the recognition of mental disorders. This led to the selection of the MHLCSE that was developed for the purposes of identify gaps in schools' tiered provision, from mental health promotion, identification of problems, and bridging the gap to external services. Psychometric results from Study Two and Three will inform the sub-scales of both RIBS and the MHLCSE in analyses and the interpretation of findings. For example, caution must be taken in relation to the interpretability of RIBS for younger adolescents, and we must acknowledge the ceiling effects for intended behaviours. Ceiling effects could limit the scale's ability to identify improvements in intended behaviours and determine the effectiveness of interventions. In addition, the psychometric properties of the MHLCSE

can inform analyses that includes sub-scales of educators' MHL and capacity as mechanisms for implementation and student outcomes.

Study Three and Four also provide context for the results relating to intervention implementation and their overall effectiveness. For example, they indicate the barriers that schools might face for successful implementation such as gaps in educators MHL and capacity, as well as logistical constraints at the school level. Both studies also highlighted the importance of adequate training for educators involved in the planning and/or implementation of school-based mental health interventions. Some of the suggestions from data analysed in Study Four were incorporated into The Guide training for the AWARE trial, including designated time for planning and building capacity to effectively implement the intervention and deal with potential disclosures. Other adaptations to The Guide included the development of digitally available lesson plans with clear learning objectives and interactive activities for students, and posters signposting to national and local services and support. Although not informed by the studies in this thesis, AWARE and INSPIRE are conducting full implementation and process evaluations alongside the efficacy trials, as was recommended in Study Four in order to take a 'fidelity *with* adaptation' approach (Lendrum & Askell-Williams, 2019).

There are a number of planned and potential future studies that could be conducted utilising data from the EfW Programme that extend on findings in this thesis. Firstly, like RIBS, there is limited evidence for the use of the Mental Health Knowledge Schedule (MAKS) (Evans-Lacko et al., 2010) for use with an adolescent sample. A moderate level of internal consistency was found in Study Two, and suggestions were made for a more comprehensive assessment of the scale's psychometric properties for use with an adolescent sample, include age and gender DIF and measurement invariance. We have included multiple domains of stigma, intended help-seeking and a measure of service use in the measurement framework for the main trials. Baseline data from the main trials could

be utilised to conduct SEMs and add to the literature in terms of the way in which these different MHL domains are associated. This could inform MHL theory and the development of mechanisms of change for related school-based interventions. Similarly, future research could utilise educator and student data relating to MHL, and explore the mediating effect of enhanced educator MHL for the implementation of school-based mental health curricula, and the influence on students' MHL outcomes. This type of analysis would help confirm claims that effectiveness of The Guide is a result of increased teacher MHL (Kutcher et al., 2015; Miller et al., 2019).

Related to educators' perceived MHL and capacity, I have plans to conduct a study investigating the extent to which MHLCSE outcomes predict different types of adaptations reported in the EfW implementation surveys, completed as part of the AWARE trial. This study could answer questions like 'Do educators with higher levels of MHL make more adaptations or less, and are these adaptations more likely to relate to The Guide's content as educators' MHL increases?' Furthermore, in relation to educators' implementation of The Guide, I have also proposed an investigation of the extent to which perceived social validity of the intervention predicts different dimensions of implementation. Specifically, to what extent does educators' perceived acceptability, appropriateness and feasibility of The Guide predict fidelity, dosage, quality, and adaptation. This would add to findings from Study Four by presenting a quantitative investigation of the relationship between perceptions of the intervention and successful implementation.

In addition to conducting interviews with school staff about the adaptations made and suggested to The Guide for the English school context, I also interviewed the intervention developer and the training and development team from the Anna Freud National Centre for Children and Families. The aim of these interviews was to understand the developer's experience of training the UK training and development team, and to explore the adaptation process in terms of the challenges and facilitators of agreeing adaptations. In

order to maintain a clear focus on adaptations made and suggested within the school context, the decision was taken to exclude these interviews from Study Four of this thesis. I hope to produce a separate paper that focuses on the process of culturally adapting The Guide from the perspective of the intervention developer and the UK training and development team. This could provide a better understanding of the tensions between fidelity to the original Guide curriculum and the necessary cultural adaptations.

Implications and Future Directions for Research Relating to School-based Mental Health Literacy Interventions and their Evaluation

Beyond future studies that can be conducted using data collected as part of the EfW Programme, this thesis points to a number of future avenues for studies relating to the conceptualisation, measurement and practices relating to school-based MHL interventions and their evaluation. For example, Cairns and Rossetto (2019) suggest that MHL interventions can relate to mental health promotion, prevention and early intervention. However, findings from Study One indicate that MHL research conducted with adolescents is predominantly focused on mental-ill health and not on the promotion of positive mental health as part of the complete mental health state. Future MHL research should avoid assessing 'mental disorder' literacy only and ensure that varying degrees of mental distress, including positive mental health, are acknowledged. Researchers should look to extend work recently published in Norway relating to positive MHL, by exploring knowledge of obtaining and maintaining positive mental health as a core component of school-based mental health education for mental health promotion (Bjørnsen, Espnes, Eilertsen, Ringdal, & Moksnes, 2019).

Furthermore, there is a need for integrated models of MHL that exist in the health literacy field (Sorensen et al., 2012), that incorporate the life course and acknowledge the interaction between an individuals' MHL and their social and contextual demands. Given that mental health is a core component of health, future MHL research could consider

applying generic models of health literacy to ensure a public health approach that encourages critical health literacy to empower the population (Freedman et al., 2009; Nutbeam, 2008; Pleasant & Kuruvilla, 2008). For example, why not teach young people about the competing professional discourses in the mental health field, and highlight the lack of parity of esteem between physical and mental health, and between adult and child and adolescent services. This kind of information would encourage young people to be activists to reduce health inequalities. One of my suspicions is that for a long time, teachers have been warned against sharing political views. By moving away from a biomedical model and presenting information relating to the wider social determinants of mental health such as inequality, mental health education can be perceived as a political issue. In my opinion, this is the view that needs to be taken to encourage young people to be agents of change, but I expect the fear for schools is that exposing the extended period of austerity under the Conservatives, and linking this to the topic of mental health, would be perceived to enter into party politics.

To assess young people's literacy beyond a focus on mental disorders, more psychometric work is needed to develop and validate measures that assess the ability to seek out, comprehend, appraise and apply information relating to the complete mental health state. In general, if we are to develop better MHL models for adolescents, more scales must be developed with adolescents' input, that comprehensively assess the various MHL domains. Of course, creating lots of new scales would not solve problems of inconsistency, and could in fact exacerbate the problem. It is therefore important to carefully identify the gaps in the literature with the help of young people, assess the appropriateness of existing measures, and develop new scales where they are needed. With better age appropriate measure, more advanced analyses such as SEM can be conducted to build models that map out the associations between domains presented in the MHL coding framework developed for Study One of this thesis. This in turn could inform mechanisms of change of school-

based MHL interventions, to see if they map onto theories of planned behaviour (Ajzen, 1991) for help-seeking relating to mental health difficulties.

An example of a recently developed MHL measure for assessing the success of a secondary school-based MHL intervention, is the Knowledge and Attitudes to Mental Health (KAMH) measure developed by researchers in Wales conducting a national-level RCT of The Guide (Simkiss, Gray, Malone, Kemp, & Snowden, 2020). The scale was developed for use with 11-16 year olds and covers domains of knowledge, including positive mental health behaviours, multiple domains of stigma, coping and help-seeking behaviour. The RCT protocol reports good internal consistencies and test-retest reliability; however, the full psychometric properties of the scale are yet to be published.

An example of a Delphi study for the development of a MHL model for children aged 8-12 years has also recently been published, with a focus on developing a verbally administered MHL measure (Bale, Grové, & Costello, 2020). Through discovering this study I also became aware of a preliminary narrative review conducted by the same team assessing child-focused (ages 8-12) MHL attributes and scales (Bale, Grové, & Costello, 2018). They did not publish a protocol for the review, and unbeknown to me, it was being conducted at the same time as my systematic literature review of the adolescent literature. It is a less comprehensive review and focused on a younger age group, but does have considerable overlap, and similarly concludes that there is a lack of psychometrically validated MHL scales appropriate for children. The more recent Delphi study identified six main themes for the content needs of children including recognising changes in mental health, help-seeking actions, supports available, mental health influences, coping and resilience, and attitudes. This model is definitely a step in the right direction, acknowledging the importance of life stage, comprehensively covering MHL domains including coping and resilience, and including different influencers of mental health beyond biomedical explanations. A similar study should be conducted for secondary

school-aged adolescents to assess whether the themes align with those identified in Bale et al.'s (2020) study.

Throughout the thesis there is a theme of cross-cultural transferability of MHL-related measures and interventions; this also relates to predominant discourses around mental health across cultures. The issue of cultural transferability is of particular relevance to knowledge measures and intervention content. In line with the emerging dynamic systems approach to school-based mental health promotion, adaptations to MHL related interventions, and measures that account for young people's social, cultural and political contexts, are necessary (O'Toole, 2017). Perhaps it doesn't make sense to have standardised measures of mental health knowledge across cultures, and we should accept that what it means to be mental health literate will be different across contexts. However, if we are to develop better models of MHL that are inclusive and culturally sensitive, more work is needed that explores the dominant discourses in interventions and MHL related measures across cultures to understand common factors. There should also be more qualitative work conducted, like Study Four, alongside evaluations of imported MHL interventions to better understand what components of interventions are culturally transferable and which require adaptation to improve fit.

Related to dominant discourses, more research is needed that explores the relationship between the acquisition of different types of professional mental health knowledge (e.g. biomedical/psychiatric vs. psychosocial) in school-based MHL interventions, and stigma reduction. In a recent publication, researchers adopted a qualitative method for identifying terminological clusters in health communications in newspapers and magazines across six European countries. The authors examined how the terminology could be linked to the understanding of MHL. Results suggested that biopsychiatric discourses were not exclusively stigmatising, and called for a more critical conception of MHL that

acknowledges the interaction between different discourses and context (Van Beveren et al., 2020).

One tension that is clear from conducting the studies in this thesis is the split between diagnosis-specific literacy and general MHL. On the one hand, a focus on general MHL and the complete mental health state could have benefits for stigma reduction and mental health promotion. However, we know that researchers, including myself in this thesis, use a range of terminology when relating to difficulties with mental health and that these can cause conceptual confusion e.g. mental illnesses, mental health problems, mental health issues, and mental health difficulties (Leighton, 2009). Researchers have shown that different terms and specific diagnoses can produce different interpretations of the severity of distress, and are linked to different stigma outcomes (Evans-lacko et al., 2010; Jorm & Griffiths, 2008). Again, I think this complexity should be acknowledged in MHL interventions. Labelling is part of understanding stigma, and the complexities of language and the lack of consistent definitions for these terms is part of problem. Gaining young people's opinions on their preferences for terminology should also take priority.

Study Three found little variance in educators' MHL and capacity was explained by school-level characteristics and provision. However, schools' training total score did significantly predict higher outcomes on all MHLCSE sub-scales. Future research is needed to better understand within school variations of educators' MHL and capacity in England. Furthermore, it was difficult in Study Three to determine to what extent educators had actually attended and benefited from specific training. More research is needed that qualitatively explores the components of successful mental health training for educators' in England, and quantitatively trials different forms of training using randomised controlled methodology.

Given that Study Three and Four identified better links with external mental health professionals as an important factor for supporting young people's mental health, future

development of school-based MHL interventions should learn from the findings from trials of the Link Programme currently being rolled out in England (Cortina et al., 2019). The Link Programme creates connections between key contacts such as mental health leads in schools and specific points of contact within local NHS child and adolescent mental health services (CAMHS). The development of mental health curricula delivered by school staff such as MHL interventions should build on this joint working approach, for example, using coaching models whereby educators receive ongoing training from mental health professionals to deliver mental health content. Cortina (2020) provides some suggestions for the future of mental health promotion in schools, recommending a public health approach with multi-agency working, with improved communication and coordinated implementation across sectors and services. This proposed model would tackle some of the challenges reported by schools in Study Three and Four of this thesis, providing a framework for successful implementation of evidence-based, mental health education interventions that also accounts for specific contextual factors.

7.4   Conclusion

This thesis makes a critical contribution to the theory, method and practice relating to school-based MHL interventions and their evaluation. In highlighting some of the challenges and inconsistencies in the field in relation to the conceptualisation and measurement of MHL in adolescent research, the thesis has been able to offer some future considerations and avenues for research such as developing age appropriate models and measures, gaining a better understanding of the association between MHL domains to develop better models for intervention theory of change, and moving towards a public health approach to MHL that encourages young people to be critical. It also offers a review of available measures for use with adolescent populations, and contributes psychometric evidence for two MHL-related scales for adolescents and educators that can be used in future research. Gaps in educators' MHL and capacity for supporting students' mental

health in England were identified, and up-to-date evidence presented relating to schools' mental health provision. The thesis offers a unique model of individual and school-level characteristics as predictors of educators' MHL and capacity, contributing to conceptual frameworks for multi-level, multi-agency approaches to supporting young people's mental health. Related to this, the thesis also offers an in depth qualitative investigation of the cultural adaptations made and suggested to a Canadian MHL intervention for implementation in the English school context. This provided a better understanding of the logistical and philosophical reasons for adaptations, and led to recommendations for easily implementable, culturally flexible approaches to mental health education.

In general, the thesis suggests that more translational research is needed to understand the complex mechanisms for successful school-based MHL interventions. This includes the conceptualisation of core components, the influence of the acquisition of different types of professional knowledge on stigma, and the influence of different dimensions of stigma on help-seeking attitudes, intentions and behaviours. Finally, it highlights the importance of adequate educator training and support from external mental health professionals to increase capacity, and the influence of existing school structures on the successful implementation of MHL interventions in England.

7.5 References

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8 APPENDIX ONE

Example Search Strategy

Search strategy for PsycINFO (Ovid) – (1806 to November 2017):

Population

1) (adolescen* or teen* or youth* or child* or minor* or 'young people*' or 'young person*' or student* or pupil* or pediatric*).tw.

Problem

2) exp mental health/ or exp mental disorders/

3) ((mental* adj (health or disease* or disorder* or ill* or wellbeing or well-being or 'well being')) or (depress* or anxi* or schizophreni* or psych*)).m_titl.

Outcomes

4) exp health literacy/ or exp health education/ or awareness/ or stigma/ or attitudes/ or attitude to mental illness/ or intended behavior/ or health belief/ or health behavior/ or help seeking behavior/

5) (literacy or knowledge or educat* or aware* or recogni* or stigma* or antistigma* or attitud* or belief* or stereotype* or behavior* or 'help seek*' or help-seek* or 'first aid*' or first-aid* or manag* or promo* or positive* or prevent* or 'self help*' or self-help* or treatment*).m_titl.

6) 1 and (2 or 3) and 4 and 5

Exclusions

7) 6 not (nutrition* or drug* or alcohol* or substance* or tobacco* or smok* or HIV or STD or sex* or autis* or diabet* or asthma*).m_titl.

8) limit 7 to English language

Link to Excel file with Full Set of Coded Articles

Full Reference List of Included Articles in Mansfield, Patalay and Humphrey (2020)

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9 APPENDIX TWO

Readability Formula (see also in Black, Mansfield, & Panayiotou, 2020)

Dale-Chall Readability Formula (DC; Chall & Dale, 1995; Dale & Chall, 1948)

DC = 0.1579(DW/TW x 100) + 0.0496(AWS) + 3.6365

DW = total number of difficult words (i.e. words not on the Dale-Chall Readability word list), TW = total number of words, AWS = average number of words per sentence

Flesch-Kincaid Reading Grade (FK; Kincaid, Fishburne, Rogers, & Chissom, 1975)

FK = (0.39 x AWS) + (11.8 x ASW) - 15.59

AWS = average number of words per sentence, ASW = average number of syllables per word

Gunning Fog Index (GFI; Gunning, 1952)

GFI = 0.4 x (AWS + (100HW/TW))

AWS = average number of words per sentence, HW = total number of hard words (i.e. words with 3+ syllables, TW = total number of words

Coleman Liau Index (CLI; Coleman & Liau, 1975)

CLI = (0.0588 x LW) - (0.2965 x SW) - 15.8

LW = average number of letters per 100 words, SW = average number of sentences per 100 words

10 APPENDIX THREE

Supplementary Table 1. *Multi-level models for baseline, individual-level predictors only and individual and school-level predictors for MHLCSE outcome – including school type as a predictor (N = 710, 248 schools)*

	Model 1: Baseline Model				Model 2: Individual-level Predictors				Model 3: School-level Predictors			
Parameter Estimate	Estimate(SE)				Estimate(SE)				Estimate(SE)			
	MHI	TS	LP	AS	MHI	TS	LP	AS	MHI	TS	LP	AS
Educator-level												
Intercept	3.61(.03)**	2.98(.03)**	3.23(.04)**	3.52(.04)**	3.46(.07)**	2.72(.09)**	3.08(.09)**	3.43(.09)**	3.20(.23)**	2.83(.32)**	2.75(.30)**	3.13(.32)**
Gender (female)					.14(.07)	.12(.09)	.11(.09)	.11(.09)	.14(.07)	.12(.09)	.11(.10)	.12(.10)
Years in Practice					.00(.00)	.01(.01)*	.01(.00)	.00(.00)	.00(.00)	.02(.00)*	.01(.00)	.00(.00)
School-level												
School Type (secondary)									.25(.05)**	.33(.07)**	.40(.07)**	.28(.08)**
Designated MH Lead (yes)									.01(.07)	-.02(.08)	.01(.09)	-.01(.09)
Training: selected staff only (yes)									-.10(.14)	-.21(.18)	-.11(.18)	-.12(.18)
Training: all teaching staff (yes)									.06(.15)	-.03(.19)	.03(.19)	-.01(.19)
Mean Training Total									.01(.00)	.01(.00)	.01(.01)	.01(.01)
Mean Barriers Total									.00(.01)	-.01(.01)	.00(.01)	.01(.01)
Log-likelihood	-739.80	-912.53	-906.05	-901.42	-735.54	-902.93	-903.47	-900.09	-716.91	-884.05	-880.44	-888.15
ICC	.017	.045	.121	.110	.024	.053	.128	.114	.000	.014	.073	.087
[95% CI]	[.000-.491]	[.009-.203]	[.060-.230]	[.052-.217]	[.001-.331]	[.012-.198]	[.065-.237]	[.055-.222]	[.000-.000]	[.000-.652]	[.024-.199]	[.034-.202]
Random Effects	.09(.09)	.19(.08)	.30(.06)	.29(.05)	.11(.08)	.20(.07)	.31(.05)	.29(.05)	.00(.00)	.07(.15)	.23(.06)	.25(.06)

Note. Sub-scales: MHI – awareness and knowledge of mental health issues; TS = treatments and services; LP = legislation and processes; AS = comfort providing active support. * p<.05, **p<.001

Supplementary Table 2. *Multi-level models for baseline, individual-level predictors only and individual and school-level predictors for MHLCSE outcomes: complete case sensitivity analysis (N = 416, 175 schools)*

Parameter Estimate	Model 1: Baseline Model				Model 2: Individual-level Predictors				Model 3: School-level Predictors			
	Estimate(SE)				Estimate(SE)				Estimate(SE)			
	MHI	TS	LP	AS	MHI	TS	LP	AS	MHI	TS	LP	AS
Educator-level												
Intercept	3.56(.03)**	2.93(.05)**	3.15(.05)**	3.46(.04)**	3.45(.08)**	2.70(.10)**	3.05(.11)**	3.45(.10)**	3.29(.27)**	3.14(.35)**	2.88(.36)**	3.19(.34)**
Gender (female)					.09(.08)	.09(.11)	.06(.11)	.05(.11)	.07(.08)	.05(.11)	.02(.11)	.04(.11)
Years in Practice					.00(.00)	.01(.01)*	.00(.01)	-.00(.01)	.00(.00)	.02(.01)*	.00(.01)	-.00(.01)
School-level												
Designated MH Lead (yes)									.02(.08)	.04(.10)	.09(.11)	-.06(.10)
Training: selected staff only (yes)									-.03(.16)	-.20(.20)	-.07(.21)	-.02(.20)
Training: all teaching staff (yes)									.05(.16)	-.11(.21)	-.05(.22)	-.07(.20)
Mean Training Total									.01(.00)*	.02(.01)*	.02(.01)**	.02(.01)*
Mean Barriers Total									.00(.01)	-.02(.01)	-.00(.01)	.01(.01)
Log-likelihood	-419.62	-534.61	-533.12	-526.59	-418.54	-529.87	-532.56	-526.42	-414.55	-523.71	-525.14	-522.19
ICC [95% CI]	.062 [.010-.302]	.065 [.011-.299]	.139 [.058-.299]	.047 [.005-.338]	.064 [.011-.298]	.068 [.013-.295]	.141 [.059-.301]	.047 [.005-.340]	.044 [.003-.384]	.039 [.002-.421]	.105 [.033-.287]	.012 [.000-.988]
Random Effects	.17(.08)	.22(.10)	.33(.07)	.19(.11)	.17(.07)	.23(.09)	.33(.07)	.19(.11)	.14(.09)	.17(.12)	.28(.08)	.09(.21)

Note. Sub-scales: MHI – awareness and knowledge of mental health issues; TS = treatments and services; LP = legislation and processes; AS = comfort providing active support. * p<.05, **p<.001