**An evaluation of the efficacy, usability and feasibility of MindAid, a digital mental health literacy training tool for secondary school teachers**

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**Executive Summary**

**Introduction**

The importance of addressing mental health problems of children and young people (CYP) is increasingly being recognised (Patel, Fisher, Hetrick, & McGorry, 2007). The latest UK prevalence survey found that, in 2017, one in eight young people had a diagnosable mental health problem. Mental health problems often have their first onset between the ages of 12 and 25 years (Kessler et al, 2007) and frequently persist into adulthood (Costello, Erkanli & Angold, 2006). Recent government reports highlight early identification and prevention as key to tackling the growing issue of mental health problems in CYP (National Health Service, 2017).

Schools have been identified as pivotal to a public health approach to CYP’s mental health, enabling identification, assessment, emotional support and access to mental health provision (DOH, 2017). Whole school approaches are population-based and incorporate mental health promotion, prevention and treatment (WHO, 2002). Mental health literacy (MHL) has been central to whole school approaches.

Teachers are very well placed to support the emotional wellbeing of CYP. This has led to an increased expectation of teachers in recent years to be responsible for the identification and referral of students with mental health problems (DOH, 2017). However, there are challenges to such mental health provision in schools (Weare & Nind, 2011). Teachers have reported that, currently, they lack the knowledge and confidence to identify and respond to mental health problems appropriately (Vostanis, Humphrey, Fitzgerald, Deighton & Wolpert, 2013).

Mental health first aid (MHFA) programmes, based on the principles of physical health first aid, serve to improve the knowledge and skills of the public to help others experiencing a mental health difficulty. MHL, based on the concept of Health Literacy is targeted by such MHFA programmes. MHL is defined as the “knowledge and beliefs about mental health disorders that aid their recognition and management” (Jorm, et al, 1997, p.182). Systematic reviews and meta-analyses of the relatively new evidence base point to the effectiveness of MHFA programmes in successfully improving the MHL of the public and more recently, non-mental-health-trained professionals, including teachers. However, they report concerns about the low methodological quality of some studies (Anderson, Werner-Seidler, King, Gayed & Harvey, 2018; Booth et al, 2017; Hadlackzy, Hokby, Mkrthchian, Carli & Waserman, 2017; Yamaguchi et al, 2019).

Qualitative designs that investigate implementation have been highlighted as important in evaluating complex interventions (Medical Research Council, 2008) and can help to determine factors that may have affected outcomes (Durlak & DuPre, 2008). Developments have also been made to MHFA programmes to increase their efficacy and usability. Digital MHL programmes have advantages of accessibility, flexibility and cost-effectiveness (Griffiths & Christensen, 2007; Griffiths, Lindenmeyer, Powell, & Thorogood, 2006). Such digital MHL programmes need to be trialled to determine if they are efficacious, like more traditional MHL approaches.

MindAid is a web-based application, which has been designed and developed with teachers to act as a training tool to improve secondary school teachers’ MHL. MindAid can be accessed on any digital device, increasing its accessibility within the school environment.

The empirical study has three aims.

1. To assess current levels of MHL among secondary school teachers in the UK.
2. To assess the efficacy of MindAid as a tool to improve MHL with the specific hypothesis that MindAid will lead to greater improvements of teachers’ MHL pre-post intervention compared with a control group.
3. To explore the usability and feasibility of MindAid as a resource for teachers.

**Systematic Review**

A qualitative systematic review was completed with the following aims:

* The perspectives and experiences of CYP aged between 5-25 and non-mental health professionals including school staff and professionals within the community supporting CYP in a school or community setting who had received either a MHL or Mental Health Promotion (MHP) programme.
* To explore the perceived impact, acceptability and implementation of these interventions.

The purpose of the systematic review was to inform the development and implementation of MHL programmes that support the mental health of CYP. The main interest was the delivery of these in school settings, but due to the lack of literature, the search was expanded to mental health promotion programmes, community settings and CYP. Twelve studies were reviewed. A thematic synthesis (Thomas & Harden, 2008) was carried out to review the results of each study and develop explanatory themes under the three pre-determined variables of ‘impact and outcome’, acceptability and implementation.

The results showed that MHL and MHP programme had a positive impact. The acceptability of the interventions varied, but facets considered important, appeared important to both CYP and professionals and included creative methods of delivery, consideration of the social and cultural context in their content and a focus on collaborative shared learning. Factors were identified that determined the sustainable outcomes of programmes and needed to be considered throughout implementation. These included consideration of the organisation and wider context, gaining buy in from all stakeholders, the infrastructure of the system including its resourcing and leadership and the ability of the programme to align with the system.

**Empirical Paper Method**

The study uses a longitudinal mixed-methods pre/post cluster-controlled design. The opportunistic sample comprised secondary school teachers across London and the West Midlands. Teachers were identified and assigned into either the intervention arm, immediately using MindAid for three months or a control group. Teachers were not randomised due to considerations of flexibility, recruitment and retention.

MHL was assessed pre and post intervention using three standardised and validated scale-based questionnaires and one questionnaire using validated vignettes. The base-line assessment was completed prior to teachers being trained on MindAid and the post-questionnaire was completed three months later. The primary measure providing an overall MHL score was the Mental Health Literacy Scale (MHLS) (O’Connor & Casey, 2015). The Reported and Intended Behaviour scale (RIBS) and the Mental Health Knowledge Schedule (MAKS) (Evans-Lacko et al, 2010; Evans-Lacko et al, 2011) were two standardised scale-based measures used to measure stigma and behaviour. The vignette questionnaire assessed six of the seven attributes of MHL and used four previously validated vignettes of children presenting with oppositional defiance disorder (ODD) (Loades & Mastroyannopoulou, 2010), depression with suicidal thoughts, social anxiety disorder (SAD) and an eating disorder (ED) not specified (Jorm, Wright & Morgan, 2007). Items in the vignette questionnaires were partly adapted from Reavley and Jorm’s (2011) and partly specific to the content of MindAid. Usability and feasibility were evaluated using a scale-based questionnaire with open-ended responses and telephone interviews completed post-intervention. These were completed by both the intervention and control group.

The quantitative data was analysed using SPSS software. Descriptive statistics were calculated for teacher demographics and base-line MHL levels. The effects of the intervention were analysed using MHL scores in a repeated-measures mixed ANOVA across the two time points between the intervention and control group for the MHLS, Vignettes and MAKS and a Kruskall Wallis test for the RIBS. Post-hoc paired t-tests assessed change in time 1 and time 2 scores for the intervention and control group. The telephone interview transcripts were analysed qualitatively using thematic analysis (Braun & Clarke, 2006).

The MHL outcome data was analysed according to intention to treat principles. Multiple imputation was used to handle the missing data. For the baseline MHL analysis, there were 145 participants. For the repeated ANOVA and paired t-tests there were 80 in the intervention group and 65 in the control group. A completed cases analysis was completed to make comparisons with the whole sample analysis using multiple imputation. This included 26 in the control group and 30 in the intervention group. The feedback questionnaire (n=43) included the waitlist-control group feedback (n=13) as they crossed over into the intervention group but could not be included in the main analysis.

**Results**

To assess teacher levels of MHL, baseline MHL scores were used from the MHLS of the whole sample (N=144), indicating a mean score of 129.43 (SD=12.01)*.* On the RIBS, teachers had a mean score of 16.07 (SD=3.22) and the MAKS a mean score of 24.27 (SD=2.99) Teachers’ total vignette mean score was 62.37 (SD=9.31). Descriptive statistics of each of the items on each vignette were analysed to gain an understanding of teachers’ MHL in terms of its individual attributes. For most attributes of MHL, teachers demonstrated the most knowledge for depression, followed by ED and SAD and the least knowledge for ODD. For confidence to help, teachers were the most likely to select “a little bit confident to help” and “moderately confident to help” across vignettes, indicating generally low confidence. There were consistently high ratings for schools and mental health professionals as helpful for the young person in question across the vignettes, (90-100%).

Teachers’ overall levels of MHL are relatively similar to that of the general public and front-line hospital staff, and significantly lower than mental health professionals (O’Connor & Casey, 2015; O’Connell & Pote, 2019). This is not surprising as 84% of the sample in this study reported that they had not received any specialist mental health training. The existing literature on teachers’ recognition, identification and beliefs about professional help and evidence-based approaches is, on the whole, conflicting. The picture generally points to low levels of MHL (Aluh, Onyeanusi & Obinna, 2018; Ozabaci, 2010), particularly identification and confidence to help (Reinke, Stormont, Herman, Puri & Goel, 2011; Snider, Busch & Arrowood, 2003; Walter, Gouze & Lim, 2006; Westling, 2010). These findings are important as they contradict the recent government policy expectations that teachers will support CYP with their mental health in school settings (DOH, 2017). The findings indicate a real need for MHL interventions to upskill teachers in their MHL knowledge and skills.

To determine the effectiveness of MindAid in improving MHL, a mixed-methods repeated ANOVA and Kruskall Wallis test was used. Post-hoc paired t-tests were carried out to examine differences between T1 and T2 scores on each outcome measure in both groups. There were no significant differences in the increase in MHL scores in the intervention in comparison to the control group pre/post data collection. In the intervention group, at post-test, teachers who received MindAid showed an increase in their scores on the MHLS between T1 (M = 128.75, SD = 12.092) and T2 (M = 130.432, SD = 13.538), however this was not significant (t(5) = -3.74, p = .723). Scores on the RIBS and MAKS, measuring stigma and behaviour, actually reduced slightly following the training. The vignette questionnaire did show a significant increase in scores from pre-post intervention (t(5) = -3.232, p < 0.001). However, the control group showed greater significant improvements across the two time points (t(428) = -6.177), p < 0.000). The difference between the two groups on this measure was significant (F(1) = 12.057, p < -.001). The completed cases analysis was compared with the multiple imputation analysis and showed similar findings.

The null findings described above are unsurprising given that MindAid usage was very low, as reported by the feedback questionnaire and google analytics. The thematic analysis of the telephone interviews explored the usability and feasibility of MindAid. The themes indicated that overall, teachers viewed MindAid as a usable and accessible resource, consistent with literature on other digital applications used in schools (Clarke, Kuosmanen & Barry, 2015). Suggestions were made to improve MindAid, such as including relationship-building skills to support them with first conversations with students and expanding MindAid to include usage by parents and students. These suggested improvements are both in line with a whole school approach (Weare & Nind, 2011).

“I didn’t have time to use it” was one of the most prominent themes arising from the thematic analysis. This is a concern given the limited time demand required by MindAid. The subthemes revealed that teachers were consistently feeling over-burdened and overwhelmed by the increasing workload and expectations placed on them in terms of their role. Teachers described feeling de-skilled, and therefore MindAid was viewed as another pressure. They worried about the consequences of “not doing it right”, reflecting a feeling of increasing accountability. Teachers commented that mental health, and therefore MindAid, was not prioritised within the school, partly because of a lack of resources but also a lack of time allocated for it by senior leadership. Some teachers did not believe that they were responsible for the mental health problems of CYP, locating this within the pastoral team. This appeared to be reinforced by conflicting views by leadership as to whether normal teaching staff could/should have full access to MindAid. The overall sense of disempowerment due to increasing workload and expectation without the same increase of resource provision is echoed in government reports and teacher surveys (Kyriacou, 2001; National Education Union, 2018; Reaper & McShane, 2010).

**Clinical Implications**

This study is the first mixed methods-controlled design study to evaluate a digital MHL intervention for secondary school teachers. It is the largest UK study to examine base-line overall MHL of secondary school teachers using the MHLS (O’Connor & Casey, 2015) and emphasises the need to up-skill teachers because of their low level of MHL.

The finding that teachers who received MindAid did not show a greater increase in their MHL levels over a three-month period than the waitlist-control group underlines the challenge of implementing interventions in schools. As this is one of the few studies in the area that has used a robust methodology (i.e. cluster controlled design), it highlights concerns in the existing literature, which has shown positive findings but has not used a control group (Eustache et al, 2014; Kutcher et al, 2016; Kutcher, Wei & Kutcher, 2014; Wei & Morgan, 2015). However, the substantial attrition and subsequent loss of power mean that conclusions need to be taken with caution.

The qualitative findings, which indicated that MindAid was viewed as a usable resource but that resource constraints and lack of prioritisation within the school environment limited its actual use, suggests that contextual factors impeding implementation may have had a negative impact on the outcomes of this study. This also limits conclusions that can be drawn about MindAid’s efficacy as a resource.

For MindAid to not only be usable but also efficacious in improving the MHL of teachers, developments need to happen to both it as a resource and the school systems within which it is being introduced. The challenges highlighted in the qualitative findings, which appeared to impact outcomes can be addressed through a whole school approach. The findings from the empirical paper and systematic review highlight the need to consider implementation factors when delivering an MHL intervention that acts as an ongoing and self-directed learning resource.

**Reflections**

Pragmatic process trials as an alternative design would be useful in future research so as to have more of a focus on implementation, a key issue in this study. Collection of implementation data would have helped to maximise the benefits of this project to inform policy and enhance its real-world impact. It is a real concern that teachers felt they didn’t have time to use an application as MindAid has a very low usage burden. The work pressures that are placed upon teachers need to be addressed if policies such as provision of MHFA training to all teachers (DOH, 2017) are going to be implemented successfully. This has been echoed in the recent report published in response to the Government Green Paper (HOC, 2019).

**Conclusions**

This study has been valuable in highlighting the need for teachers to receive training in mental health if they are to meet the expectations of new government policy regarding mental health support for CYP in schools (DOH, 2017). It has also indicated the value of digital interventions because of their perceived usability and accessibility. Most importantly however, it has highlighted the challenge of implementing mental health initiatives into school systems. There needs to be considerable thought about how initiatives such as MindAid will be implemented into school settings and how teachers will be supported in terms of ongoing resource allocation.

**Systematic Review: A qualitative systematic review exploring the impact, acceptability and implementation of mental health promotion and mental health literacy programmes targeting young people’s mental health**

**Abstract**

**Introduction:** The prevalence of mental health problems of children and young people (CYP) globally has recently been gaining increasing attention. Programmes that target mental health promotion (MHP) or mental health literacy (MHL) have been recommended as population-based approaches to the prevention of mental health problems in CYP. The review aimed to explore qualitative evidence on the views and experiences of CYP and non-mental health professionals receiving or delivering MHP and MHL programmes.

**Method:** A meta-synthesis of qualitative evidence on the implementation, acceptability and perceived impact of MHP and MHL programmes targeting CYP mental health. Systematic literature searches were undertaken of two databases, PsycInfo and Web of science from 1995-2018. Screening, data extraction and quality appraisal of studies were undertaken by one researcher. The CASP tool was used to appraise the quality of studies. Included studies were synthesized by the thematic synthesis approach as outlined by Thomas and Harden (2008).

**Results:** 99 records were identified, and 12 qualitative studies were included. Programmes were perceived to be effective in improving the MHL of recipients, building relationships between CYP, staff and the community and leading to change beyond recipients for example in the community or school environment. The following themes were highlighted for programmes to be perceived as acceptable: creative methods of delivery, content that was specific to the cultural and social context and a focus on collaborative learning that encouraged connection. Factors facilitating or impeding implementation related to the organisation and wider socio-political context, the infrastructure of the system within which the programme was being introduced including supportive leadership and appropriate resource allocation and finally the ability of the programmes to align and adapt to the system.

**Conclusion**s: Findings from this review have implications for those designing, implementing and evaluating MHL and MHP programmes. It is recommended that research includes a qualitative component or process evaluations to achieve optimal impact.

**Introduction**

**The importance of addressing child mental health**

Mental health challenges are a leading health issue facing children and young people (CYP). Globally 20% of CYP experience a mental health problem in any given year and it is estimated that 31% of CYP aged 15-24 years old will experience mental health challenges in their life (World Health Organisation [WHO], 2012). The most recent Epidemiological survey completed in the UK on the mental health of CYP, estimates that in 2017, one in eight children aged two to nineteen had a diagnosable mental health problem according to the International Classification of Disease (ICD-10) diagnostic criteria (NHS Digital, 2018). Up to 50% of all mental illnesses emerge before the age of 18 years (Kessler et al., 2007). However, many CYP do not seek help from formal sources (Kelly, Jorm & Wright, 2007).

Determinants of mental health disorders are not limited to individual attributes but also include social, cultural, economic, political and environmental factors such as socio-economic status and community social supports. The 2008 global financial crisis provides a powerful example of a macroeconomic factor leading to cuts in funding despite an increasing need for more mental health services. Without appropriate treatment for emerging mental health disorders, CYP face both short and long-term detriments to their social, economic and interpersonal wellbeing (Wei, Kutcher, Hines & MacKay, 2014). Untreated depression and anxiety in adolescence predicts continued mental health issues, with an increased risk of suicide and substance related problems (O’Neil, Conner & Kendall, 2011; Papandrea & Winefield, 2011). These disorders are also associated with cognitive impairments such as inattention and concentration problems, leading to academic underachievement, school drop-out and poor occupational functioning longer term (Farrell & Barrett, 2007; Moon, Williford & Mendenhall, 2017; Papandreou & Winefield, 2011). Early identification, intervention and prevention greatly reduce the individual, social and economic costs of mental illness (Farrell & Barrett, 2007). As CYP with mental health issues rarely self-refer to health professionals and find it difficult to recognise their own mental health problems (Jorm, 2012), it is not only important to promote and educate CYP about mental health but also the adults who care for them so that they are able to recognise when CYP require care and facilitate its access (Armbruster & Kazdin, 1994).

To address the challenge of the increasing prevalence of mental health difficulties, mental health advocates have argued for a population-based approach incorporating promotion, prevention and treatment (Collishaw, Maughan, Natarajan & Pickles, 2010). According to the WHO (2004), mental health service planning and delivery are incomplete if they do not cater to the dual objectives of prevention and treatment of mental disorders.

**Mental Health Promotion (MHP)**

The WHO (2002) defines MHP ‘as actions to create living conditions and environments that support mental health and allow people to adopt and maintain healthy lifestyles’. MHP initiative’s target the whole population and conceptualise mental health in its positive sense, as an integral part of overall health and wellbeing and reflecting the equilibrium between the individual and the environment (Jane-Llopis, Barry, Hosman & Patel, 2005). MHP emphasizes two key concepts: power and resilience with power being defined as a person’s, group’s or community’s sense of control over their life (Joubert & Raeburn, 1998). Resilience is defined for the purpose of MHP programmes as the skills of problem solving, building relationships and maintaining interpersonal relationships and realistic goal setting (Fenwick-Smith, Dahlberg & Thompson, 2018). Universal promotion of mental health programmes therefore often focuses on constructs such as social and emotional skills, positive behaviours, social inclusion, effective problem solving and good citizenry (Wells, Barlow & Stewart Brown, 2003). The WHO (2002) argued that mental health policies should include MHP and not be limited to the health sector but also involve education, labour, justice, transport, environment, housing and welfare.

**Mental health literacy (MHL)**

MHL, coined by Anthony Jorm in the 1990’s, is defined as “knowledge and beliefs about mental disorders which aid their recognition, management or prevention (Jorm et al, 1997 p.82). Its development followed from the wide acceptance that the public will benefit from knowing what actions they can take for prevention, early intervention and treatment in physical health. MHL has been identified as a factor that affects help seeking (Reavley, McCann & Jorm, 2012). MHFA training was first developed in Australia in 2001. Programmes are designed to improve the MHL of participants.

**The evidence base for MHP and MHL programmes**

For the purpose of this review, ‘programme’ will be used to refer to any MHP or MHL initiative. In recent years the field of MHL and MHP programmes have achieved world-wide recognition with evidence from systematic reviews showing positive effects on multiple areas of functioning and outcomes (Anderson, Werner-Seidler, King, Gayed & Harvey, 2018; Booth et al., 2017; Clarke, Kuosemanen & Barry, 2015; Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011; Durlak & Wells, 1999; Hadlaczky, Hokby, Mkrtchian, Carli & Wasserman, 2014; Jane Llopis, Barry, Hosman & Patel, 2005; Wei, Hayden, Zygmunt & McGrath, 2013; WHO 2004; Yamaguchi et al, 2019).

For programmes targeting MHL, studies have yielded mostly positive results indicated by systematic reviews and meta-analyses, with effect sizes ranging from small to large for change in knowledge and attitudes. Less evidence has been demonstrated for actual helping behaviours. In a systematic review of ten studies, targeting primary and secondary school teachers by Yamaguchi et al (2019), effect sizes were between 0.4 and 2.3 for knowledge and ranged between small and large for stigmatising attitudes. In another systematic review of programmes targeting specifically secondary school teachers, effect sizes ranged between 0.57 and 3.1 for mental health knowledge and between 0.36 and 1.18 for attitudes (Anderson, Werner-Seidler, King, Gayed & Harvey, 2018). Hadlaczky, Hokby, Mkrtchian, Carli and Wasserman (2014), in a review of MHL programmes targeting the public, effect sizes were 0.56, 0.28 and 0.25 for change in knowledge, attitudes and helping behaviours respectively. Other systematic reviews were unable to report effect sizes, only providing a narrative synthesis due to the clinical and methodological heterogeneity between studies but reported positive change in MHL outcomes for recipients (Booth et al, 2017; Wei, Hayden, Zygmunt & McGrath, 2013).

Programmes targeting MHP have reported improved mental health and social outcomes (Clarke, Kuosemanen & Barry, 2015; Durlak & Wells, 1999; Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011), although where effect sizes have been reported, these have ranged between small and moderate, lower than programmes targeting MHL (0.22, 0.16-0.48 and 0.22-0.57 respectively). Similar to the MHL research field, some systematic reviews were only able to complete a narrative synthesis due to the clinical and methodological heterogeneity of studies. Clarke, Kuosemanen and Barry (2015) in a synthesis of MHP programmes, results indicated some evidence that the programmes had a significant positive impact upon adolescent mental health but that the rates of non-adherence and attrition and limited number of studies in the review limited any conclusions that could be drawn.

This indicates that although the evidence base consistently demonstrates positive findings for these programmes, developments to the programmes themselves and the methodological rigour of the studies evaluating them need to be made.

**School and community services as settings for delivery**

Despite the WHO naming ‘social, cultural, economic, political and environmental factors as some of the key determinants of mental ill health (WHO 2014), most mental health support is delivered in traditional psychological services or school settings, which risks making little difference to wider community and societal determinants of health. MHP has close links to Community Psychology, a preventative approach that is being increasingly recognised and promoted and aims to tackle the social determinants of mental health (Fryer, Duckett & Pratt, 2004). It emphasises the active participation of local communities in setting priorities, making decisions, planning strategies and implementing them to achieve better health.

Schools, the community and health services have therefore increasingly been viewed as important settings for the promotion and prevention of mental health in CYP. Schools have been reported to provide un-paralleled access to CYP as a point of engagement for addressing their educational, emotional and behavioural needs (Weist & Paternite, 2006). There is growing evidence that when implemented effectively, school-based MHP programmes can produce long term benefits for CYP, including improved social and emotional functioning and academic performance (Adi, Killoran, Janmohamed & Stewart-Brown 2007; Barry, Clarke, Jenkins & Patel, 2013; Weare & Nind, 2011). The educational setting offers an opportunity to promote the positive mental health and wellbeing of all students through the use of universal approaches as well as prevent mental health problems by the use of more targeted preventative approaches.

MHP programmes are typically complex. Schools themselves are complex organisations with many stakeholders (communities, children, parents, teachers and counsellors). Being a psychologically healthy school requires work at multiple levels. It means creating an environment where children learn and develop socially and emotionally, as well as academically. It means developing and promoting resilience in students; providing early identification and intervention for psychological difficulties and establishing links with more specialist teams and agencies for more complex difficulties (House of Commons Education and Health Committees, 2017). Schools are often working at these different levels simultaneously and so not all interventions can be neatly categorised.

**Non mental health trained professionals**

As part of this shifting pedagogy, a number of different types of non-mental health professionals are now expected to play a greater role in supporting the mental health needs of CYP. This includes teaching staff, GP’s, nurses and community workers. However, these professionals often feel ill-equipped to support CYP with mental health problems (Vostanis et al, 2013; Whitley, Smith & Valliancourt, 2013). Many Gatekeeper Training Interventions (GKTs) target individuals (gate keepers) who are in frequent contact with others in their communities. The training equips non-professionals with the skills and knowledge to recognise, intervene with and link distressed individuals to appropriate mental health resources (Lipson, Speer, Brunwasser, Hahn & Eisenberg, 2014). Teachers in particular are well placed to observe changes that may signal a decline in CYP mental health (Whitley, Smith & Vaillancourt, 2013) and are often responsible for liaising with school counsellor, parents and other mental health professionals about provision of support (Spratt, Shucksmith, Phillip & Watson, 2006). However, a lack of knowledge, confidence and skills currently serve as a barrier to the provision of this support (Hadlaczky, Hokby, Mkrtchian, Carli & Wasserman, 2014).

**Need for implementation research**

Despite the recent surge of quantitative research indicating promising evidence for MHL and MHP programmes, meta-analyses have shown a large variation in outcomes, making it difficult to reach meaningful conclusions (Anderson, Werner-Seidler, King, Gayed, Harvey & O’dea, 2018; Durlak & Wells, 1997; Jané-Llopis, Barry, Hosman & Patel, 2003; WHO, 2004; Yamaguchi et al, 2019).The evidence for many programmes are still lacking robustness through confirmation by the outcomes of replication studies and low methodological quality. Poor adherence, high dropout and inconsistent measures remain common problems in reaching clear findings. Few validated questionnaires are used, which makes it difficult to assess the generalisability of results (Yamaguchi et al, 2019). Standardised measures on which many programmes are evaluated on, have also been criticised as grounded in ‘research on’ rather than ‘research with’ or ‘research for’ young people (Darbyshire, Schiller & MacDougall, 2005) and as such they risk excluding the views of CYP who are key informants of issues relating to their emotional wellbeing. Where programmes have been successful, it is not always easy to generalise the findings to other settings or replicate programmes to produce the same effects (Wolpert, Humphrey, Belsky & Deighton, 2013).

Transferring effective programmes into real world settings and maintaining them there is increasingly recognised as a complicated process that requires dealing effectively with the successive phases of ‘programme diffusion’ (dissemination, adoption, implementation and sustainability) (Kalolo, Radermacher, Stoermer, Meshack & De Allegri, 2015). Research practices are now evolving new ways of testing complex programmes with an increasing focus on process issues, such as how programmes are implemented, their acceptability, identifying mechanisms of change and local context (Moore et al, 2014). There has been an increased focus on implementation as a process issue relating to health promotion programmes. Implementation can be generally defined as the ways a programme is put into practice and delivered to participants i.e. what a it looks like in reality compared with what it is conceived to be in theory. Findings from implementation science have confirmed that one of the most important factors affecting programme outcomes is how the programme was implemented and that programme outcomes cannot be interpreted fully without also investigating the process of implementation (Durlak & DuPre, 2008). Although implementation science has been employed for some time in clinical health and community settings, it’s application in the educational domain is still relatively new, with many areas for continued research (Lyon et al, 2018).

**Acceptability**

Acceptability can be defined as the opinion, beliefs, views, attitudes, impressions, experience or perceptions. Acceptability has become a key consideration in the design, evaluation and implementation of health care programmes (Sekhon, Cartwright & Francis, 2017). Scott, Weiss and Viljoen (2005) identify the acceptability of programmes as a core factor for whether teachers adopt evidence-based programmes. Other literature has identified that successful implementation depends on the acceptability of a programme to both those delivering it and those receiving it (Stok et al, 2015).

**Qualitative systematic reviews**

Systematic reviews on MHP and MHL programmes have tended to be of a quantitative design focusing on efficacy. The systematic study of implementation has been relatively neglected due to the challenge of evaluation methods that are able to look at both process as well as outcome (WHO, 2004). In-depth qualitative syntheses of service-user perspectives, experiences, meaning and interpretations are also lacking. A continuum of approaches including qualitative process-oriented methods has been recommended (McQueen & Anderson, 2001). Substantial advances in methodology for reviewing and synthesizing qualitative evidence have been made and there is now explicit recognition of the benefits of using qualitative research in the development and evaluation of complex interventions (Pope, Mays, Popay & 2007). Qualitative synthesis offers a route for service user and staff perspectives to be incorporated into guidance on good practice (Kelly, 2009; Shaw & Holland, 2014).

The revised Bronfenbrenner’s bio-ecological model highlights the inter-relations and impact of school, peer, parent, community and society on a child’s development and therefore encourages all students, teachers, school support staff, social workers and psychologists, parents of students, community centres, community leaders and policy makers to participate in mental health care (Bronfenbrenner & Morris, 2006). Whilst researchers are more likely to consider the quality of evidence and methodological robustness of trials, different stakeholders will bring other perspectives on the type of evidence needed. Stakeholders can be defined as people across any system who have an influence on or are influenced by a problem. Nutbeam (2000) reports that policy makers are more likely to be concerned with the need to justify the allocation of resources whilst practitioners may want to have confidence in the likely success of programmes for recipients, that the process of implementation is participatory and relevant to their needs. The perspectives of different stakeholders are therefore key to the success of programmes being implemented in different settings.

The purpose of the review is to identify and explore the qualitative evidence on the perspectives and experiences of the impact of programmes, their acceptability and factors affecting their implementation so as to provide recommendations for future programmes in terms of their design, development and dissemination. Our main interest was the delivery of these in school settings and with teaching professionals. However preliminary searches suggested limited qualitative data available on this specific area and so the search was expanded to include community settings. The emergent qualitative findings from this systematic review are important to share with professionals engaged in the mental health of CYP and the developers of programmes.

**Aim**

The aim of this review was to identify and synthesize qualitative published literature on:

* The perspectives and experiences of CYP aged between 5-25 and non-mental health professionals including school staff and professionals within the community supporting CYP in a school or community setting who had received either a MHP or MHL programme.
* To explore the perceived impact, acceptability and implementation of these programmes.

**Method**

This review is a meta-synthesis of qualitative studies.

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| --- | --- | --- |
| Table 1. Inclusion and exclusion criteria | | |
|  | Inclusion | Exclusion |
| Sample | Stakeholders affected by MHL and MHP programmes for the mental health of CYP. CYP aged 5-25, non-mental health trained professionals in educational or community settings who interact with CYP or programme facilitators. | Mental health trained professionals  Children under 5  Parents |
| Phenomenon of interest | Universal MHP or MHL programmes | Mental health prevention programmes  Programmes that target a specific mental health disorder |
| Programme (general)  Programme (mental health promotion)  Programme (mental health literacy) | Courses, programmes, training, packages or other resources that sought to promote mental health or enhance MHL relating to mental health of CYP  Programmes which target: Promotion of social, emotional behavioural and cognitive competence; relationship building and social connection; Active involvement of stakeholders (school, community, students, family, staff).  Programmes that target knowledge, beliefs and skills regarding mental disorders | Training which targeted a specific mental health disorder such as eating disorders.  Training that did not include a psycho-educational component  Training which was purely therapeutic in content |
| Design | Qualitative and mixed method studies | Quantitative |
| Data collection methods | Interviews, focus groups, open-ended surveys and observational studies. | Closed ended surveys or questionnaires, quantitative data |
| Analysis | Qualitative. Thematic analysis, framework analysis, data reduction techniques, grounded theory, IPA, Narrative analysis | Content analysis |
| Language  Publication | English | Non-English language  Book chapters, dissertation abstracts, editorials, guidance documents |

**Eligibility**

**Inclusion criteria**

Qualitative research studies reporting on the evaluation of existing programmes that target MHP or MHL to support the mental health of CYP. The number of studies included within a synthesis of qualitative studies is a source of debate. Studies need to be able to provide depth of insight into the research question but too many may limit the data analysis process (Ring, Ritchie, Mandava & Jepson, 2011),

*Sample*

The sample needed to consist of either CYP or non-mental health trained professionals supporting CYP. CYP were defined from school age until 25 as defined by special educational needs code of practice (Department for Education, 2015). For the purpose of this meta-synthesis, non-mental health trained are any individuals that have not received mental health training, other than anything that they may have received as part of their professional basic training. Parents are not included.

*Phenomena of interest*

For the purpose of this systematic review, MHP is defined according to The World Health Organisation (WHO) definition, which is “actions to create living conditions and environments that support mental health and allow people to adopt and maintain healthy lifestyles” (WHO, 2002). Weist and Murray (2007) report that MHP in the area of CYP should focus on social and emotional learning competence which includes problem solving skills, building and maintaining interpersonal relationships and actively involve CYP, schools and communities. For this reason, MHP programmes were included if they targeted social and emotional competence relationship building skills or the active involvement of CYP, schools and communities.

For the purposes of this review, MHL has been defined as knowledge and beliefs about mental health disorders that aid their recognition and management or prevention (Jorm, 1992). Based on this, MHL programmes were included if they targeted knowledge, beliefs or skills for managing mental health problems for themselves and others.

Mental health promotion differs from mental health prevention which is defined by WHO has encompassing the reduction of incidence, prevalence and recurrence of illness and therefore tend to target ‘at risk’ groups (WHO, 2004). Therefore, only universal programmes were included and excluded programmes that were targeted i.e. children with pre-existing mental health problems or programmes that were purely a therapeutic programme and did not include any psycho-educational components.

*Programme*

To be eligible for inclusion, a programme needed to be a structured training program, which targeted MHP or MHL in relation to CYP. MHP programmes often utilise a whole school approach, which addresses mental health and wellbeing through policy, curriculum design as well as training for staff and CYP (O’Reilly, Svirydzenka, Adams & Dogra, 2018). Therefore, there was no limit on the duration or delivery of programmes.

*Outcomes*

To be eligible for inclusion, the studies needed to have qualitative outcomes capturing perspectives or experiences relating to the outcomes, implementation or acceptability of the programme.

*Study design and publication*

Studies were included if they were of a qualitative or mixed methods design. Studies needed to include a rigorous enough qualitative analysis and so those using content analysis were excluded. All studies needed to be published in the English Language in peer-reviewed journals.

**Search strategy**

A systematic search of the literature was performed in January 2018 using the databases PsycInfo and Web of Science from 1995-2018. The search strategy used key search terms (Appendix A).

The search strategy aimed for conceptual saturation due to Thomas and Harden’s (2008) notion that the results of a conceptual synthesis will not change if ten rather than five studies contain the same concept, but depends on the range of concepts found in the studies, their context and whether they are in agreement or not.

*Selection of studies and data extraction*

Following the initial scoping search, a title and abstract screening was performed. A data extraction form was used from a similar systematic review (Scantlebury, Parker, Booth, McDaid & Mitchell 2018) and included information related to country, setting, participants, study aims, training programme, method of evaluation and method of analysis.

*Quality assessment strategy*

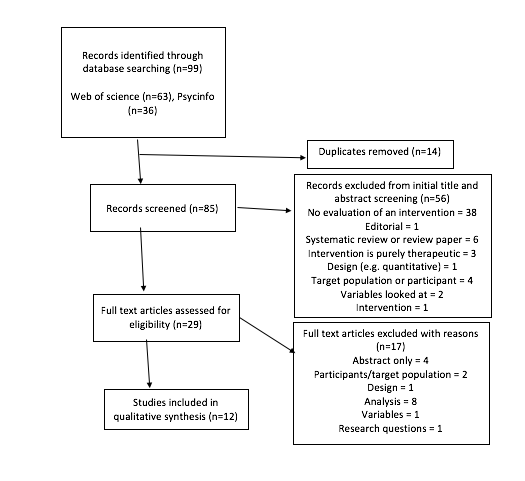
The Critical Appraisal Skills Programme (CASP) tool was used to assess the methodological quality of individual studies. CASP consists of a series of ten questions relating to study aims, data collection, data analysis, ethical approval, findings and overall value of the study (see Appendix B). A second researcher reviewed a sub-sample of three studies to assess quality using the CASP (see Appendix C). There were no significant differences in ratings. Studies meeting the inclusion criteria were evaluated by one reviewer. Studies where the inclusion criteria were queried, the methods were more thoroughly reviewed with a second review using the inclusion and exclusion criteria and data extraction form.

*Data synthesis*

Thematic synthesis was the approach used to aggregate the findings (Thomas & Harden, 2008) as being the most appropriate to the aims of this systematic review. Thematic synthesis was first developed to address questions around ‘what works’, primarily in relation to health promotion programmes, by synthesizing qualitative research and quantitative research separately and then integrating the findings. More recently, thematic synthesis has been used to synthesise findings from multiple qualitative studies in systematic reviews. The purpose of this method is to develop analytical themes through a descriptive synthesis and find explanations relevant to the review question. This method has been used to address review questions about the appropriateness, acceptability and effectiveness of programmes.

There are three stages to thematic synthesis: free line-line by coding of textual findings from primary studies; organisation of free codes into descriptive themes; and generation of ‘analytical themes’ (using the descriptive themes to produce a new interpretation which goes beyond the original studies). Thematic synthesis concurs with the conceptualisation of thematic analysis in how it formalises the identification and development of themes. Line by line codes were inductively applied. The data was then arranged into the pre-determined framework elements relating to the research question, as described earlier. Codes within this framework then began to be organised into themes. Themes were subsumed and new themes developed. Translation took place which was the process of taking concepts from one study and recognising the same concepts in another study. Explanations or theories associated with these concepts was extracted and a ‘line of argument’ developed by pulling concepts together and making further interpretations.

Figure 1: Consort flow diagram of study selection



**Results**

**Search results**

Figure 1 is a consort diagram showing the procedure for selection of the studies. A total of 99 were identified. Fourteen duplicates were removed leaving 85 studies. Based on title and abstract screening 56 were rejected (See Table 2 for exclusion reasons). 29 studies were read in full and matched against the selection criteria. Of the 29, seventeen were queried in terms of their inclusion criteria. These were discussed with an independent reviewer through consultation and reviewing the methods in more detail, for example one was agreed to be excluded as it targeted individuals with a diagnosis of an eating disorder (Nitsch et aL, 2016) and another because of the reporting of the analysis (Bohleber, Crameri, Eich-Stierli, Telesko, & Von Wyl, 2016). Of these, seventeen were excluded (see Table 3 for exclusion reasons), which left twelve studies eligible for inclusion.

|  |  |
| --- | --- |
| Table 2. Exclusion reasons from initial title and abstract screening | |
| Reason | Number of studies |
| Duplicates | 14 |
| No evaluation of a programme | 38 |
| Editorial | 1 |
| Systematic review or review paper | 6 |
| Programme is therapeutic intervention e.g. mindfulness | 3 |
| Design (e.g. RCT not qual or mixed) | 1 |
| Participants or target population not young people | 4 |
| Programme itself is not MHP or MHL | 1 |
| Variables | 2 |

|  |  |
| --- | --- |
| Table 3. Exclusion reason from full text search | |
| Exclusion reason | Number of studies |
| Abstract only | 4 |
| Participants/target population | 2 |
| Design | 1 |
| Analysis | 8 |
| Variables | 1 |
| Research questions | 1 |

**Characteristics of the programs and their studies**

Table four summarizes the authors, country, study design, research questions and aims, variables, study population, cultural context, methodology and approach to analysis and the main findings. Table five summarises the details of the programmes used in each study including the components of MHL or MHP that they address, the population target, aim, the theory/framework, the content and its platform and length.

**Quality appraisal outcome**

The quality of the papers was variable and the CASP tool identified methodological weaknesses in all of the studies. Common weaknesses were failure to report the relationship between research and participants and ethical issues.

Table 4: Summary table of study characteristics

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table 4. Summary table of study characteristics | | | | | | | |
| Author and Location | Study Design | Research question / Aim | Vari-  able | Study Population | Cultural context | Methodology  Approach to analysis | Main findings |
| 1  Watkins et al, (2016)  USA | QE  MM  CI  PA | Report the qualitative findings from the pilot  YBMen project. To learn what participants liked and disliked about the YBMen project Facebook intervention and what their suggestions were for ways to improve the it in the future. | A  F  E  S | Setting: College  Participants:  Young black men (n=8)  Age: 18-26  30 took part in quant, 11 in intervention arm | African American Males in further education. | Methodology: DK  Data collection: 30-90-minute face to face interview  Approach to analysis: Data reduction RADAR technique  Rigour addressed | 9 subthemes described participants reactions to the characteristics of the Facebook intervention. Opportunities for relationship building and connectivity, coupled with engaging popular culture references encouraged usage. The accessibility, cultural sensitivity and gender specificity were valued. |
| 2  Tilhaun et al, (2017)  Ethiopia | MM | Examine training needs and perspectives  of HEWs, including barriers and facilitators, in relation to integrating child mental health care into community-  based PHC services in Ethiopia. | A  F  E | Setting: rural community in Ethiopia  Participants  Community health extension workers (n=11)  Sampling: not reported | Low-middle income country. Increased prevalence of mental health problems (12-25% of children in comparison to global rate of 10-20%). Rural area of Ethiopia. | Methodology:  Data collection: Face to face interviews  Approach to analysis: Framework analysis | 5 Themes considered the learning needs of the workers, the use of the training for, the perceived need of the training, the barriers and facilitators to implementation and integration of training into their work. Competence and knowledge of child mental health issues was perceived as important. Barriers included competence, stigma and institutional constraints. |
| 3  Kidger et al, (2016)  UK | MM  CRCT | Explore the feasibility, acceptability sustainability and perceived need of both aspects of the programme  and explore the justification  for evaluating the programme in a full cluster randomised  controlled trial (RCT). | A  F  S  E  U | Setting: Secondary school  Participants:  Teachers, non- teaching staff and SLT (n=27) from 6 secondary schools.  Sampling: Voluntary. | Schools representing a range of socio-economic backgrounds although not specified. Three adjacent local authorities. | Methodology:  Data collection:  Focus groups supplemented by individual interviews.  Approach to analysis: Constant comparison techniques | The peer support service was perceived as a helpful support programme through the process of being listened to and raising the profile of mental health at a whole school level and there being a shared understanding that staff mental health was valued. Barriers included a lack of knowledge about the service and governance issues including confidentiality |
| 4  Wasserman et al, (2018)  Estonia  Italy  Romania  Spain | Q | invited youth to speak about YAM and mental health. By examining what transpired between youth and researchers at the time of the interview |  | Setting: Secondary school  Participants: YP (n=16)  Age: 15-17  Sampling: not reported | No specific information given. Use of interpreters in interviews for local language and English. | Methodology: Grounded theory  Data collection: Face to Face Interviews  Approach to analysis: 2-fold reflexive analysis. | Themes considered YP’s experience of YAM and how this linked to their positioning during the interview and the researcher’s mode of interaction. There were 5 subthemes describing different categories of experience ranging from “engaged”, “initially hesitant”, “eager to please”, “cautious” and “disengaged” |
| 5  Clarke, Sixsmith & Barry, (2015)  UK | CRCT  PA  MM | To evaluate the implementation of Zippy’s Friends emotional wellbeing programme. Explore:  1.Persoal experiences of how they coped with problems  2.Ability to identify feelings in response to problem situations  3.Views about the Zippy’s FRIENDS programme | I | Setting: Primary school (n=44)  Participants:  Pupils aged 6-7 (N=717)  Qual  (n=84) from 6 schools in intervention arm  (n=77) from 3 schools in control arm | Disadvantaged primary schools in Ireland. Context of delivery was for ‘equality of opportunity’ | Methodology: Thematic analysis  Data collection  Participatory workshops  Approach to analysis: Inductive thematic analysis approach (Braun and Clarke (2006) | Positive impact of the programme on types of problem solving and support seeking strategies employed when coping with certain situations. Children in the intervention group had an increased emotional repertoire to speak about problem situations. The use of narrative through story and activity-based approaches were perceived as the most beneficial. |
| 6  Leadbeater, Gladstone, Thompson, Sukhawath-aakul & Desjardins, (2012)  Canada | Q | Examine the uptake processes undertaken by self-identified program champions who attempt to galvanize use of evidence based bullying prevention programmes. | I  A  F | Setting: 7 Secondary school Participants: head teachers, deputy head, school counsellor, teachers, librarian, police officer (n=20) from 7 schools.  Sampling: Voluntary from district wide invite. | Rural elementary school. Rural areas with population of 2700-22,000 – small tax bases and high transportation costs. Sample included community leaders as well as school staff. | Methodology: Thematic analysis  Data collection: Face to face interviews and semi-structured questionnaires  Approach to analysis: Descriptive | Four descriptive themes explored the implementation acceptability and feasibility of the program, thinking particularly about the process of a program being discovered, the adoption of the programme into a specific context, aligning the program with the existing system and key individuals such as champions who can overcome barriers to adoption. |
| 7  Schwartz, Dinnen, Millman, Dixon & Flaspohler, (2016)  USA | Q | whether the UTC programme is successfully meeting its goal of preparing college students to be effective and culturally competent urban teachers. key stakeholders’ opinions on what students gain from participation in the UTC programme | I  O | Setting: Community and secondary school  Participants: administrators, mentors, teachers and students (n=14)  Sample: purposeful for diversity | Urban schools in Miami. Increased prevalence of poverty, social determinants of mental health problems. | Methodology: Thematic analysis  Data collection: Interviews and focus groups  Approach to analysis: Pattern analysis, thematic analysis (Braun & Clarke) | Five themes captured the impact and feasibility of the program. The experiential learning component was valued, as was the focus on building relationships. An understanding of context through community-based teaching was seen as valuable in preparing teachers for this specific population of students. |
| 8  Lendrum, Humphrey & Wigelsworth, (2013)  UK | MCS | Implementation  variability within and between schools and  the barriers to effective implementation that may have influenced this variability.  Extent to which schools implemented  aspects of the programme as suggested in the  guidance materials, explore local adaptations and the  reasons for them, and to identify barriers to and facilitators  of implementation | I | Setting: 48 Secondary school  Participants: Staff and students (n=48) from 300 secondary schools.  Sampling: purposeful to be representative and have some unique and some shared characteristics | 7 local authorities in North-West and South-West England. Comprehen-sive and selective, single and mixed-sex schools, proportion of pupils speaking English as additional language. | Methodology: Thematic framework  Data collection:  Semi- structured interviews and observations  Approach to analysis: Thematic analysis (Braun & Clarke, 2006). | Quant: No significant impact on pupil outcomes in terms of social and emotional skills, mental health and behaviour.  Qual: Four themes focused on factors that may affect the implementation of prevention and promotion programmes. Key components and processes that contribute to implementation variability were considered including staff factors, integration and a whole school approach. The programme and implementer characteristics were explored and specific contextual factors within organisational systems of secondary schools including competing initiatives and capacity. |
| 9  Jenkins, Bungay, Patterson, Saewyc & Johnson, (2018)  Canada | CI  PP  MM | 1) Can youth-driven mental health promotion  programmes contribute to changes in indicators of mental health? 2) does level of engagement influence the degree of benefit?  and 3) what do community members perceive to be the impacts of mental health promotion programmes designed by youth? These  questions allowed us to uncover the impacts and outcomes of both SONAR as a mental health promotion programme and of youth  engaged in research as a process. | O  F | Setting: community and secondary school  Participants: Young people (n=2) adults in the community (teachers, counsellors and youth workers) (n=8).  Sampling: not reported | Lakeview | Methodology: Thematic  Data collection:  Semi-structured interviews  Approach to analysis: Thematic analysis (Braun & Clarke, 2006) | Three themes emerged regarding the impact of the programme. These indicated that in addition to greater levels of resilience and connectedness among participants, the programme supported individual and community level factors to promote mental health, foster capacity and build connectivity. Enhanced self-concept, knowledge and empowerment were seen as key outcomes for young people and that youth involvement promoted leadership and a shifting in community practice. Blurring of boundaries facilitated connection and a reduction in discrimination and stigmatising attitudes. |
| 10  Wasserman et al, (2012)  Austria, Estonia, France, Germany, Hungary, Ireland, Israel, Italy, Romania, Slovenia and Spain | RCT  MM | The Awareness program field. Experiences are captured by using first-hand information  from the 11 SEYLE sites, as such, generating recommendations  and enhancing the future potential of such a suicide prevention strategy. | A  I | Setting:  Secondary school  Sample: 179 secondary schools  Program co-ordinators (n=11).  Sampling: schools randomised into intervention arms | Original awareness campaigns in pilot study were locally designed and thus culturally adjusted to be acceptable for the local population. Study funded by the European Union | Methodology: Thematic  Data collection: Interviews  Approach to analysis: DK | Two overarching themes of the strengths, shortcomings and future proposals for the programme included 5 subthemes. The interactive component provided opportunities to discuss feelings and promoted social networks. Programmes were viewed as a burden on the system. a more holistic programme with a longer time frame and more interactive methods was recommended |
| 11  Elfrink et al, (2016)  Netherlands | MM | To examine how PEP was implemented in two of the schools and the impact of the programme on pupil’s social and emotional skills from the perspective of the teachers and parents. | I  O  A | Setting: Primary school  Teaching staff and school principals: n=19 from two schools | One rural and one urban school in the region of Enschede. | Methodology:  Nielsen & Randall (2013) framework for process evaluation  Data collection: Semi structured interviews | Themes indicated the positive impact of PEP on children’s positive behaviour and engagement in classroom activities as well as the impact of PEP on teachers own awareness and ability to observe and support students. Areas were identified for improvement |
| Firth et al, (2008)  Australia |  | What factors were barriers and enablers for implementation of the programme as reported by facilitators of the Beyond Blue school initiative | I | Setting: 42 Schools  Participants: programme facilitators (n=6)  Sampling: Randomisation following invitation and stratified by disadvantage (high middle and low income schools) | Schools of three states in Australia | Methodology:  Process evaluation  Data collection: Semi structured interviews, diaries  Analysis: Not identified. | Themes describe key features of the programme that according to project facilitators influenced its implementation. These were: ‘meeting a need perceived by the school’, adequately resourcing the initiative, leadership and teamwork and educator input into the curriculum design. Project design flexibility to meet individual school needs and provision of sufficient resources were reported as key for successful implementation. |

Design: QE (quasi experimental), MM (mixed methods), CRCT (Cluster randomised controlled trial), Q (qualitative), MCS (multiple case study), CI (Community intervention), RCT (randomised controlled trial), PA (Participatory Approaches)

Variables: A (acceptability), F (feasibility), E (efficacy), S (sustainability), U (usability), I (implementation), O (outcome)

Programmes: YAM (Youth Aware of Mental Health Experience); HEAT (Health and Education Training Curriculum); WITS (Walk Away, Ignore, Talk it out, Seek help); SEAL (Social and Emotional Aspects of Learning); SONAR (Social Network Action for Resilience); PEP (Positive Education Programme).

Table 5. Summary table of programme characteristics

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Table 5. Summary table of programme characteristics | | | | | | | |
| Reference and name of programme | MHP or MHL | Components of MHL or MHP addressed | Population target | Aim of programme | Theory/ Framework | Content | Platform/Delivery  Length |
| 1  Watkins et al., (2016)  YBMen Facebook project | MHL + MHP | MHL:  Knowledge  Attitudes  Skills  MHP:  Social/peer support | Black men aged 18-25 | “To better understand and address pressures and needs of men regarding issues relating to masculinity and mental health” | Social determinants of mental health  Theory of online social support to address people in context. | Social support is designed to facilitate action planning, problem solving, decision asking to improve mental health behaviours and improve engagement in learning and supportive atmosphere | Platform: Digital Facebook application  Length: Five weeks |
| 2  Tilhaun et al., (2017)  Health and Education Training Curriculum (HEAT) | MHL | MHL:  Knowledge  Skills | Community health workers | “To equip community workers in their role” | None stated | Healthy development, intellectual disability and neuro-developmental disorders. | Delivery: Face to face teaching  Length: One day |
| 3  Kidger et al., (2016)  Mental Health First Aid and Peer Support | MHL + MHP | MHL:  Knowledge and recognition  Provision of advice, information and signposting  MHP:  Peer/social support | Teaching staff | “To provide support to staff mental health and to strengthen their ability to support students.” | Universal whole school approach | Facts signs and symptoms of CYP mental health, strategies for providing initial help to anyone in distress or risk at developing mental health problem. | Delivery; Classroom based teaching (MHFA)  Drop in session within school (peer support)  Length  MHFA – 2 days  Peer support - ongoing |
| 4  Wasserman et al (2018)  Youth Aware of Mental Health Experience (YAM) | MHL + MHP | MHL  Knowledge  Attitudes and stigma  MHP: Peer support increasing reflection | 14-16 year olds | “Combat mental health stigma” | Universal and participatory approach | Social support, stress, crisis, depression, suicide and help seeking | Delivery: Role play,  discussion  Information booklet  Length: 5 hours over three weeks |
| 5  Clarke et al. (2015)  Zippy’s Friends | MHP | MHP:  Social and emotional competence including strategies for dealing with problems | 6-9 year olds | “Promote mental health and emotional wellbeing of children” | Universal and whole school approach  Lazarus and Folkman 1984 theoretical framework of coping | 6 modules: feelings, communication, making relationships, conflict, resolution, dealing with change and loss and general coping skills | Delivery: Workshops |
| 6  Leadbeater, Gladstone, Thompson, Sukhawath-aakul & Desjardins., (2012)  WITS program | MHL + MHP | MHL:  Knowledge  Skills  MHP:  Helping with peer problems/social competence | Children, teachers and community leaders, parents | Not stated | Universal and whole school approach | Not stated | Delivery: Curriculum, open discussion, online module |
| 7  Schwartz, Dinnen, Millman, Dixon & Flaspohler., (2016)  Urban Teaching Cohort | MHL + MHP | MHL:  Knowledge  Skills  Attitudes and stigma  MHP: Active involvement with, community, family, school | Teachers | “Develop teachers’ knowledge, skills and interpersonal style related to social justice and the community” | Community based approach | Introduced to community organisers  Activities designed to introduce to political social and economic factors impacting community | Delivery: Experiential learning through staying in community. Seminars and coursework |
| 8  Lendrum, Humphrey & Wigelsworth., (2013)  Social and Emotional Aspects of Learning (SEAL) | MHP | MHP:  Staff effectiveness Social and emotional competence | Teachers and students | “Aims to improve learning and attainment, positive behaviour, regular attendance, staff effectiveness and emotional health and wellbeing of all staff and pupils” | Universal and whole school approach  Goleman's model of emotional intelligence | Not stated | Delivery: Curriculum based |
| 9  Jenkins, Bungay, Patterson, Saewyc & Johnson., (2018)  Social Network Action for Resilience (SONAR) | MHP | MHP:  Social, emotional, behavioural competence Opportunities for connection and bonding Active involvement of stakeholders and the community | CYP | “To address mental health of young people” | Community based and participatory approach | Activities fostering self-efficacy, self-determination and prosocial behaviour |  |
| 10  Wasserman et al., (2012)  Suicide Prevention for youth | MHL + MHP | MHL  Knowledge and awareness  MHP:  Emotional learning  Peer support | 14-16 year olds | “Meet the mental health needs of young people through integrating different types of learning to guide young people” | Universal and whole school approach | Awareness of self-help advice, stress and crisis, depression and suicidal thoughts, helping a friend, getting advice.  Exploration of situations and opportunity to learn social and emotional skills. | Delivery: Digital app  Length: ongoing |
| 11  Elfrink et al. 2016  Positive Educative Programme (PEP) | MHP | MHP:  Promotion of social emotional, behavioural and cognitive competence Active involvement all stakeholders (parents and teachers) | Teachers and students | “Improving children’s wellbeing and creating a positive school climate” | Universal and whole school approach  Positive Psychology | Values Life rules Wellbeing Engagement | Delivery: Booklet,  Didactic presentation, role play sessions  Length: Five x 45-60 minute sessions |
| 12  Firth et al., (2008).  Beyond Blue | MHP | MHP:  Youth participation and social relationships  Social and emotional competence and problem solving  Connection with local services | Teachers and students | “Increase individual and social environment protective factors within the school community, in an attempt to reduce or prevent the development of adolescent depression” | Universal Whole School Approach | Supportive environment focusing on  development of problem solving, coping skills, optimism and social and emotional skills, connection. | Delivery: Workshops  Written resources  Length: 4 one day workshops for teachers One parent meeting |

**Analysis and results**

**Thematic synthesis**

Following the analytic processes, themes emerged from the extracted data for the three investigated variables: three themes for impact and outcome with subthemes; three themes for acceptability with subthemes; four themes for implementation with subthemes. These themes and associated subthemes are discussed in turn. See table 6 for explanatory table of themes with supporting sub-quotes and individual studies associated with each theme. See figure 2 for full thematic map.

Table 6. Summary table of themes and supporting quotations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 6. Description of themes and supporting quotations. | | | | | | |
| Analytical Theme | | | Descriptive sub themes | Studies which include theme. No. of studies with YP and stakeholders endorsing theme | Interpretation of original findings  Young people only, professionals only, young people and professionals | Quotations supporting researchers’ interpretations |
| *Impact and Outcome (N=9)* | | | | | | |
| 1.MHL & Other Transferrable skills  N=8 | | | 1.1 Knowledge and Confidence | n=8  1, 2, 3, 4, 5, 7, 9, 11  CYP = 5  Staff = 5 | CYP: Increased knowledge led to noticeable behaviour change including ‘healthier lifestyle choices’, appearing more confident, an increased emotional repertoire and effective coping strategies (1, Watkins et al, 2016; 5, Clarke et al, 2015). Professionals described observing these changes in young people (9, Jenkins et al, 2018). | *“Self-esteem increased, self-awareness and wanting to make healthier choices in day to day life” (1, CYP).*  *“She might have felt frightened because she didn’t know what to do” (5, CYP).*  *“There are a few youths that have really come out of shell, start to believe in themselves, self-esteem increased, self-awareness and wanting to make healthier choices in day to day life.” (9, community stakeholder).* |
| Staff: increased knowledge appeared to motivate and empower them to raise further awareness in the context of their training. Increased self-efficacy led to greater job satisfaction and decisions to stay in the field (2, Tilhaun et al, 2017; 7, Schwartz et al, 2016). | *“This knowledge motivated me to give health education to raise awareness in the community about misconceptions. (2, community worker).* |
| Both: Knowledge, awareness and confidence improved particularly through certain methods of delivery (Watkins et al, 2016; Tilahun et al, 2017; Kidger et al, 2016; Wasserman et a., 2014; Clarke et al, 2015; 7 Schwartz et al, 2017; 11, Elfrink et al., 2016) such as experiential learning (4, Wasserman et al, 2018; 7, Schwartz et al, 2016). Knowledge often developed through the process of being empowered and having ownership over a programme (1, Watkins et al, 2016; 7, Schwartz et al, 2017; 9. Jenkins et al, 2018). | *“The teachers are very aware of how to observe the children and they are talking with each other about these observations (11, teacher)*  *“Yes, more awareness of how to react. “I’m much more aware of it now” (11, teacher)* |
|  | | | 1.2 Attitudes and stigma | n=8  1, 2, 3, 4, 7, 9, 10, 11  CYP: 3  Staff: 5 | CYP: Broke down stigma and enabled CYP to speak openly about issues facing them (1, Watkins et al, 2016; 4, Wasserman et al, 2018) | *“I would say I really enjoyed being in a place where I could hear the opinions of other black men… no one’s trying to impress anyone… everyone’s just being themselves and giving their opinions…every now and then I [want to] talk about some really deep topics and I feel like with the YBMen group it’s 100% that… that was really nice ‘cause I do not get that often, not with black men.” (1, CYP)* |
| Staff: Led to increased acknowledgment of young people’s strengths by staff (11, Elfrink et al, 2016). In Tilahun et al, 2017 despite raising awareness, stigma continued to be a barrier. | *“I noticed that I’m more aware of the talents of the children, I think I really grew in that aspect (11, teacher)* |
| Both: led to a reduction in stereotypes and myths about individuals and their communities (2, Tilhaun et al, 2017; 3, Kidger et al, 2016; 7, Schwartz et al, 2017; 9, Jenkins et al, 2018). | *“If you hear a story, I believe that something in you won’t let go because you connect with the real story” (7, student teacher).*  *“What affected my work was my own fear and misperception that family may not accept my advice and belief that cases should be cured, my negative attitude and misperception towards improvement of children with developmental disorders is a problem towards helping people” (2, community health worker)*  *“I wouldn’t understand power structures and how race, class and gender and sexuality and disability all affect my students and me and education in the world If I did not take these UTC classes…” (7, student teacher)* |
|  | | | 1.3 Transferrable skills | n=4  1, 3, 9, 7  CYP: 2  Staff: 2 | Staff*:* staff valued programmes which helped to develop their own critical thinking skills, reporting a more meaningful understanding of mental health problems (7, Schwartz et al., 2017, ,3, Kidger et al, 2016; Jenkins et al, 2018) | *“The way I listen is a bit different, that what she is talking about, there is actually something below, there’s something else”. (3, teacher).* |
| Both Programs which focused on relationship building led to the development of transferrable skills such as leadership, public speaking skills and the ability to think critically (1, Watkins et al, 2016; 9, Jenkins et al, 2018). | *“I wouldn’t understand power structures and how race, class and gender and sexuality and disability all affect my students and me and education in the world if I did not take these UTC classes, the other classes that grade and (teach about) nuts and bolts, that level of critical thinking is not really there at all”(7. student teacher)* |
| 2. Building relationships and meaningful connections  N=8 | | |  | N=8  1, 3, 4, 5,7, 9, 10, 11  CYP: 5  Staff: 4 | Both: Relationship building was in both process and outcome. Programmes that focused on relationship building led to meaningful and sustained outcomes of respect, understanding and empathy, whilst the ability to build relationships and form connections with others was viewed as a positive outcome in itself. Collaboration and connecting with others normalised experiences, facilitated learning as well as wellbeing. Peer support appeared to provide permission to speak about difficult topics and issues facing them (Watkins et al, 2016; 3, Kidger et al, (2016; 4, Wasserman et al, 2018; 5, Clarke et al, 2015; 7, Schwartz et al. 2017; 10, Wasserman et al, 2012; Elfrink et al, 2016).  Building relationships between CYP, professionals and the larger community improved the sustainability of programmes (7, Schwartz et al, 2017; 9, Jenkins et al, 2018). | *“Made me think more in-depth about mental health issues and it’s causes, made me look into research about mental health more than I would… I would never have thought about it before (1, CYP).*  *“When my cousins cam we were playing with the skipping rope. She said I couldn’t play because I was too small. I made friends with a new friend and she brought two skipping ropes. I asked if I could have one (5, CYP)”*  *“We share stories which, again, create this connectivity, which then creates this sort of safe space to talk about issues that are real” (7, student teacher)*  *“The way I listen is a bit different. that what she is talking about is actually something below, there’s something else (in reference to talking About colleague”. (3, teacher)*  *“Concerning involvement in my classroom, I see that students now really want to collaborate with each other. During this collaboration their involvement is very high and yes this increased involvement leads to an increase in wellbeing as well” (11, teacher)*  *“Bringing people from outside to get different perspectives and different thoughts. It really made our teachers and students think differently. Making connections with other people and looking at people differently…” (9, Community stakeholder).* |
| 3. System level change | | |  | N=4  4, 7, 9, 10  CYP: 2  Staff: 3 | CYP: Role play discussions improved class bonds and the general school climate (4, Wassserman et al, 2018). | *“The awareness program also contributed to stronger class bonds (Hungary) or an improved general school climate (Israel)” (10, program co-ordinator).*  *“I remember it made our class friendlier…” (4, CYP).* |
| Staff: Professionals described changes that were beyond the level of the individual, seen both in the organisational culture and wider community (7, Schwartz et al, 2017; 9, Jenkins et al, 2018; 11, Elfrink et al, 2016). | *“Adults talk about teenagers a little bit differently now. They are seeing them do things and be active and I think that is actually becoming very positive”. (9, community stakeholder)*  *“I can see a physical presence at different community events, it helps give an avenue for engagement” (9, community stakeholder).*  *The awareness program led to the development of networks with the clinical sector by providing information on the treatment of pupils in distress (10, program co-ordinator)* |
|  | | | 3.1 Youth involvement Promotes engagement and empowerment | n=3  5, 7, 9  Staff: 3 | Staff: Youth involvement was viewed as a process and outcome. Where the school, community and young people collaboratively worked together, this created opportunities for further engagement, sustained change in attitudes (Schwartz et al, 2017; Jenkins et al, 2018) and increased stakeholder interest (9, Jenkins et al, 2018). | *“youths talking about their experience, people came, and kids talked, it was very powerful, I don’t think teachers realised how capable they were and that’s what we need to demonstrate.” (9, community stakeholder).* |
| *Acceptability (N=10)* | | | | | | |
| 4.Tailored training content and delivery facilitates engagement  N=10 | | 4.1 Creative and experiential methods of delivery | | n=7  1, 2, 4, 5, 6, 7, 10  CYP: 4  Staff: 2 | CYP: Creative programmes appeared successful in engaging young people into conversations about mental health such as the use of role-plays, humour and creative activities like the mystery box (4, Wasserman et al, 2018; 5, Clarke et al, 2015; 10, Wasserman et al, 2012). Role play provided an acceptable way to speak about feelings (4, Wasserman et al, 2018). It also appeared to overcome difficulties with language and understanding highlighted in other programs as it a more relaxed and open approach (4, Wasserman et al, 2018). | *“The topics were examined in depth, but I felt like laughing, it was fun (4, CYP).* |
| *Staff:* Programs which included community-based teaching were viewed as having multiple benefits helping professionals to build meaningful relationships with the students, learn about the community and therefore really understand the issues that were relevant to them. (4, Wasserman et al, 2018; 7, Schwartz et al, 2017). | *“When you’re just expected to read and you don’t have the resources, it’s easy to psychologically shut down but if you hear a story, If you hear (name’s) story, I believe that something in you won’t let it go there…because you can connect it with a real person’s real story” (7, student teacher)*  *“by getting to know the community you get to know your students” (7, student teacher)* |
| *Both:* Programmes that involved experiential components had multiple benefits: developing critical thinking skills (7, Schwartz et al, 2017); enabling recipients to question dominant narratives that they may have held (9, Jenkins et al, 2018); building meaningful relationships and connections (9, Jenkins et al, 2018); providing real life application of skills and knowledge (4, Wasserman et al, 2018; 7, Schwartz et al, 2017; 10, Wasserman et al, 2012). Staff and students appeared to prefer multiple methods of delivery (1, Watkins et al, 2016; 4, Wasserman et al, 2012; 6, Leadbeater et al, 2012) | *“Watching kids identify their community issues that are important and do something about them” (7, student teacher)* |
|  | | 4.2 Plain Language | | n=5  1,2,4,8,10  CYP: 2  Staff: 4 | Both: Programmes were frequently perceived by CYP as needing to consider language. Language was frequently cited as a barrier and content of materials reported as confusing (1, Watkins et al, 2016; 2, Tilhaun et al, 2017). Staff also identified the need for plain language in programmes to have a shared understanding (8, Lendrum et al, 2012). | *I didn’t understand the words that were used… Stuff I didn’t’ understand, I didn’t comment”. (1, CYP)*  *“Talking afterwards and reading about it…but if someone wasn’t there when they did the talk, they might have just read those and come to wrong conclusions.” (4, CYP).*  *“People have got in their mind all the time saying. “well is this SEAL really…and it’s just…it encompasses so many things”. (8, teacher).*  *“The child mental health session was not clear and has only limited content with very little information on autism. So we need to learn in detail about each kind of disorder, using simple language.” (2, community health worker)* |
| 5. Context is important | |  | | N=8  1, 2, 4, 6, 7, 8, 9, 10  CYP: 4  Staff: 4 | CYP: Studies consistently highlighted that contextual factors need to be considered for programmes to be considered acceptable and therefore engaged with. (1, Watkins et al, 2016; 9, Jenkins et al, 2018). Programmes and platforms that paid attention to context and used popular culture references and media were more likely to successfully engage recipients (1, Watkins et al, 2016).  In Tilahun et al, (2017) study in the community, it appeared that stigma related to autism was prevalent in that cultural context and highlighted it as an area of improvement for the programme. | *“Before this I would never really have thought about masculinity but participating made me think about it more and I will continue to.” (1, CYP)*  *“Using rapper quotes will most likely touch us because we know what they are saying. Things that we see every day. especially where I am from, more videos like masculinity, I’d be bound to click on it” (1, CYP)*  *“I’m always around Facebook…good way to express yourself…people can’t just have a conversation, so they go on the internet.” (1, CYP).*  *“There are many children with developmental disorders in the community” (2, community health worker).*  *“The child mental health session was not clear and had only limited content with very little [information] on autism”. (2, community health worker).* |
| Both: Addressing social determinants of mental health problems such as stigma or social isolation through the design of programmes improved their outcome and use. (1, Watkins et al, 2016; 7, Schwartz et al, 2017; 9, Jenkins et al, 2018). Programmes that improved understanding of the cultural and community context were viewed as successful in providing good relationship building skills (1, Watkins et al, 2016; 7, Schwartz et al, 2017). | *“Just about every topic [in the YBMen Facebook group] was engaging. Honestly…all of them were good posts and good approaches. If anything, they just made me curious you know?” (1, CYP).*  *“I would not understand power structures and how race, class and gender and sexuality and disability all affect my students and me and education in the world if I did not take these UTC classes” (7, student teacher).*  *“So what I really liked about SONAR was that it took kids and you met here but you were actually talking about community things that were relevant outside… It’s so cool to have kids bringing some of that community stuff into school.” (9, community stakeholders)* |
| 6. Collaborative shared learning | |  | | N=7  1, 3, 5, 7, 9, 10, 11  CYP: 2  Staff: 5 | Staff: Staff valued programmes which gave them opportunities to discuss issues in a shared way about both how to support CYP and their own wellbeing. Peer support was identified as an acceptable and effective programme for staff (3, Kidger et al, 2016; 7, Schwartz et al, 2017). | *“People just need somebody to listen to them, spend time and care…. sends a message to staff that we care about you, there is a network if you need it” (3, teacher).*  *“But if I hadn’t had had that intervention, if I’d had to go in the class and sort of stifle all of those feelings in front of children, you know then it probably would have been a different situation probably”. (3, teacher).* |
| Both: Programmes that involved an element of social support, building relationships with and learning from other people were viewed in a very positive light (1, Watkins et al, 2016; 3, Kidger et al. 2016; 7, Schwartz et al, 2017; 9, Jenkins et al,, 2018; 10, Wasserman et al, 2012). | *“Educational, helped you learn, like we’re teaching y’all and y’all teaching us in a way. Like both…it’s a learning environment” (1, CYP).*  *“I enjoyed being in a place where I could hear the opinions of other black men. Everyone just being themselves. I could talk about some real deep topics; you don’t get that often… not with black men”. (1, CYP)*  *“we get to talk to each other, share stories, creates connectivity, creates a safe place to talk about issues that are real. “. (7, student teacher)* |
| *Implementation (N=10)* | | | | | | |
| 7.Consider the organisation and wider context  N=9 | 7.1 Organisational factors: Capacity and staff attitudes | | | n=9  2, 3, 4, 6, 7, 8, 10, 11, 12 | Attitudes towards programmes varied but whether positive or negative appeared to impact upon implementation (2, Tilhaun et al, 2017; 3, Kidger et al, 2016; 4, Wasserman et al, 2018; 6, Leadbeater et al, 2012, 8; Lendrum et al, 2013; 12, Firth et al, 2008). The attitude of frontline staff had a knock-on effect onto leadership (8, Lendrum et al, 2013).  Staff attitudes towards programmes and perceived capacity within the system appeared linked. Programme facilitators views in one study acknowledged the additional burden that programmes could create (12, Firth et al, 2008). A culture of increased pressure and workload on staff, competing initiatives and high staff turnover had a negative impact upon attitudes towards programmes. (6, Leadbeater et al, 2012. 8, Lendrum et al, 2013; 12, Firth et al, 2008) | *“Our staff are really very good, even though we are a small school, somebody makes a suggestion and we all jump on board which is good” (6, teacher, programme champion).*  *“I’ve got 40 minutes and my priority is they leave the room knowing about particle theory, the fact they’re emotionally illiterate, well that’s not my problem” (8, teacher).*  *“It’s human nature to be suspicious of something new to start with, and you know the kind of reactions like “well I’m not going to speak to anybody… and it’s almost like people have got to get used to it, say it was really good you should go”. (3, secondary school teacher).*  *“I kind of talked to staff and didn’t really work up a lot of interest because they seemed quite resistant …so I said I’ll facilitate it in library” (8, teacher, programme champion).*  *“and so… they were always a bit cynical… they just went through the process, they didn’t really fully implement the initiatives” (12, programme facilitator)*  *“You get the isn’t it just another of these ideas from the government that will fade out, do it for a couple of years and then it’ll be ‘we’ve got another idea now, there is cynicism from people who are a bit weary of initiative after initiative”(8, teacher).*  *“I definitely want to continue with PEP, I think everyone agrees with that…the children are more positive and relaxed, which inevitably leads to better learning results” (11, teacher)*  *“Teachers and staff were sceptical about the pupil’s motivation to participate in such a program”. (4, programme co-ordinator).*  *“I learned that not all things can work in the same in a different and challenging environment that it really needs to be the kinds of things that we’re trying to do for schools here needs to be an individual approach and we need more time to do that” (12, programme facilitator).*  *“My impression is that beyond blue is too much and that they’re not committed anymore” (12, programme facilitator)*  *“I felt, I still feel a little bit like we gave them too much to do and too short a time-line and they struggled so they’d be really exhausted” (12, programme facilitator).*  *“I don’t think anyone was really in control of keeping all the data… all the bits and pieces that they’d collected… the team kept changing that was another problem” (12, programme facilitator.* |
|  | 7.2 Broader social, cultural and socio-political context | | | n=4  2,6,8,12 | Mental health problems were often spoken about in relation to contextual factors causing them such as financial, social and health related burdens (2, Tilhaun et al, 2017). When studies took them into account this facilitated implementation (12, Firth et al, 2008).  Challenges relating to organisational capacity often appeared beyond the control of leadership and at a broader level (6, Leadbeater et al, 2012; 8, Lendrum et al, 2013). | *“Financial problems for families being able to access treatment after referral was a challenge that hindered my day to work…. lack of services available and lack of trained health personnel.” (2, community health worker)*  *“Other problem was negative attitudes and misperceptions in the community and family about treatment and the cause of a condition i.e. beliefs of community that certain conditions don’t need modern treatment, can be transmitted and are a punishment from God, so treatment can only be religious treatments” (2, community health worker)*  *“We have five inset days a year, there are huge demands on those for everybody… the demands on teachers are phenomenal”. (6, SLT).* |
| 8.Discovery and buy in  N=9 | 8.1 An Iterative Process | | | n=9  2-4,6,8,9,  10,11,12 | In seven studies, “buy in” was described as an iterative process (3, Kidger et al, 2016; 4, Wasserman et al, 2018; 6, Leadbeater et al, 2012; Lendrum et al, 2013; Jenkins et al, 2018; Wasserman et al, 2012; Elfrink et al, 2016). “Buy in” was referred to as a process of ‘discovery’, this being the willingness to consider it and was something that took time or multiple attempts (6, Leadbeater et al, 2012). The process or buy in appeared was described as linked to understanding (11, Elfrink et al, 2016). | *“Like every program, if it is seen as an add on, teachers will always say “okay my plate is this big”, “you’ve given me something to put on that plate, what comes off”. If you can convince them that what comes off is five or six interactions a day between children that they are able to handle on their own then you’ll see “give me a helping of that, put it on my plate”. (6, teacher and programme champion)*  *“In the first half of the year, it is a bit unclear what you have to do” (11, teacher)*  *Ensuring that the entire teaching body appreciates the benefits and efforts of such a program is beneficial to implementation” (4, programme co-ordinator).*  *“It’s very important that it’s very clear for the teachers what they can do. In the beginning that was all really uncertain, like: “what are we going to do exactly?” but now when it’s clear, I definitely see a future for PEP” (11, teacher)* |
|  | 8.2 Practice based evidence and evidence-based practice | | | n=3  6,11-12 | Evidence was cited as a facilitator of buy in by two studies. This is both statistical evidence in policy and research (12, Firth et al, 2008) but also something that needed to be demonstrated live to staff. Practice based evidence facilitated buy in and perceived sustainability of programs (6, Leadbeater et al, 2012; 11, Elfrink et al, 2016). | *Like every program, if it is seen as an add on, teachers will always say “okay my plate is this big”, “you’ve given me something to put on that plate, what comes off”. If you can convince them that what comes off is five or six interactions a day between children that they are able to handle on their own then you’ll see “give me a helping of that, put it on my plate”. (6, teacher and programme champion)*  *“It’s great to see how nice the children are working and how relaxed they are during the afternoons (11, teacher)*  *“I definitely want to continue with PEP. I think everyone agrees with that. You see that PEP generates a lot of good results. The atmosphere is better, the children are more positive and relaxed which inevitably leads to better learning and results (11, teacher).*  *“They decided that pastoral care mattered and so here they were working with a research organisation that was saying ‘yes it does’ and here’s the research and here’s why it does and they really valued the data and they were already in that direction anyway so the success in that I guess” (12, programme co-ordinator).* |
| 9. Infrastructure  N=5 | 9.1 Resource allocation | | | n=5  2,3,6,8,11 | Five studies cited a lack of resource allocation as a barrier to implementation, including training, time, scope of training and heavy workload. (8, Lendrum et al, 2013; 9, Jenkins et al, 2018; 11, Elfrink et al, 2016). | *“Sometimes I struggle thinking, ‘oh how can I…what can I do with this”.(8, teacher).*  *“People have got in their mind all the time saying. “well is this SEAL really…and it’s just…it encompasses so many things”.(8, teacher).*  *“It’s all today with time, because lots of people are interested but then it’s about when do you do it?” (8, teacher).*  *“There is a lot to be done in the same time (apart from PEP). Reports, observations you want to spend time on it but you just aren’t able to.” (11, teacher).*  *It was a troubled year especially in grade 4-6. A lot of colleagues were sick and it’s hard to instruct substitutes to work on it. Substitutes first need some time to get to know the children (11, teacher).* |
|  | 9.2 Supportive and committed leadership | | | n=4  3,6,8,12 | Supportive and committed leadership were considered important for successful implementation (3, Kidger et al, 2016; 6, Leadbeater et al, 2012)  one study from the perspective of the programme facilitators highlighted that a lack of had a negative impact upon implementation (12, Firth et al, 2008). | *“So [our new principal] took over from [the previous one] just at the beginning of this year and pretty much inherited this initiative – that he was going to kick off! He was quite enthusiastic and supportive” (6, teacher, program champion)*  *“I think someone on the senior leadership team needs to be involved… to oversee it to make sure it is implemented and happens (3, teacher).*  *“I learned that leadership is critical. I just think it made a huge difference and leadership style so leadership in terms of mandate and permission to go ahead and take the risks and make the priority and use your authority” (12, programme facilitator)*  *“Although leadership was informed when programme was to run and that it needed to be embedded into the curriculum, it was not until the final few days of term 2 that the action team was given full list of teams who would be running the programme and therefore many teachers were unable to attend” (12, programme facilitator)* |
|  | 9.3  Participation and ownership | | | N=5  3,4,6,8,9,11 | Five suggested that the involvement of young people, staff and other relevant stakeholders in the design, planning and implementation of programmes was a key facilitator of successful implementation (Kidger et al., 2016; Wasserman et al, 2018; Schwartz et al, 2017; Jenkins et al, 2016; Elfrink et al, 2016). It provided a sense of ownership which assisted with the process of “buy in” at all layers of the system because it assures the programme is fully aligned to the organisational culture, ethos and need.  (6, Leadbeater et al, 2012; 11, Elfrink et al, 2016; 12, Firth et al, 2008). It also enhanced relevance to stakeholders (9, Jenkins et al, 2018). | *“You had this little group of students and all of a sudden they’ve blossomed and they’re definitely – they have ownership, right. it’s not just oh this little project, it’s like my project. (9, community member)*  *“Which topics are important for us? What do we need to do as a team? What do you implement in which grade? You can make decisions fit to the school (11, teacher)*  *“And or parents, yes, I believe we can make more progress in the aspect of connections with the parents as well (11, teacher).*  *“They really took it on, they sat, they looked at it, they analysed it and talked about it within their team ‘ oh gosh’. You know we didn’t realise that the kids didn’t trust us to that extent’… so that immediately started their thinking around. how can we build or strengthen the trust between us and the kids... And then we’d then consult the supporting environment issue in the manual and other areas in the school (12, programme facilitator)*  *“The teachers would get together prior even in firs year when curriculum was engaging and they decided it would be a damn fine idea to meet beforehand so all the teachers would meet at designated times ahead of delivery and plan. they used to look t the lesson plan and they’d work out how this would be one best in their school.” (12, programme facilitator)* |
| 10.Aligning with the system  N=7 | 10.1 Becoming part of the whole | | | n=5  2,6,8,11,12 | Five studies spoke about programmes needing to tailor and adapt to the system in which they were being implemented and that their needed to be a ‘goodness of fit’ between the system and the programme (2, Tilahun et al, 2017; 6, Leadbeater et al, 2012; 8, Lendrum et al, 2013; 11, Elfrink et al, 2016; 12, Firth et al, 2008). Successful implementation was viewed as more likely if a school has things in place so that the introduction of a program is not seen as too new or different (6, Leadbeater et al, 2012; 8, Lendrum et al, 2013; 11, Elfrink et al, 2016; 12, Firth et al, 2008). | *“It’s easy to integrate, the reason why they love it is it’s not an addition to what they already have to do where they feel overwhelmed and have to do all curriculum stuff. It fits right in” (6, teacher, program champion).*  *“Initial momentum isn’t difficult; the problem comes with how you genuinely make it part of the curriculum”.(8, teacher)*  *“Prior to implementing WITS, the school had paid good attention to values development, so it wasn’t like the school had to have WITS, it’s just been another new tool to further work on” (6, teacher, program champion)*  *“They really valued the data and they were already in that direction anyway so the success in that I guess” (12, programme facilitator)* |
|  | 10.2 Flexibility vs prescription | | | n=6  3,4,6,8,11,12 | The dilemma of flexibility vs prescription of programmes was highlighted in five studies. In three study’s flexibility was valued as it provided some ownership and therefore commitment to a program and ensured that the program aligned with the fit of the setting (3, Kidger et al, 2016; 6, Leadbeater et al, 2012; 11, Elfrink et al, 2016). In one study the flexibility was particularly valued, so they didn’t have to invest time and resources on an area which wasn’t as high priority (12, Firth et al, 2008). However, in one study some prescription and a guided framework felt necessary to avoid confusion, which served as a barrier to progression with the program (8, Lendrum et al, 2013). | *What I could produce and show you would be… the whole of the year 7 schemes of work, areas of study for all the subjects and how they’ve fitted in and jigged things around to meet the themes that we’re teaching in SEAL. The reality of that – I am honestly not sure if it’s happening in reality (8, senior Leadership).*  *“It’s very intensive in terms of staff training needs and then battling to find training time because of other things” (8, teacher)*  *“Which topics are important for us? What do we need to do as a team? What do you implement in which grade? You can make the decisions fit to the school” (11, teacher)*  *“The shortcomings of the awareness program, as voiced by the instructors, mostly concern the lack of flexibility due to the RCT design and the tight time frame in the implementation of the workshops. It was difficult to assure that the needs of all pupils were met, or that all topics were equally addressed, explained and/or understood with the same depth” (4, programme co-ordinator”)*  *I think it’s … allowing the schools some time to look at what they consider to be core areas which would make significant impact for them (12, programme facilitator).* |

Figure 2. Thematic map

**A close up of text on a white background

Description automatically generated**

**Overview of the studies**

*Context*

Studies spanned a wide geography. Three of the studies were conducted in the UK, two in the USA, two in Canada, one in Australia, one in Ethiopia, one in the Netherlands, one spanned Austria, Estonia, France, Germany, Hungary and Ireland and finally one spanned Estonia, Italy, Romania and Spain. In terms of setting, nine were conducted in only school and college settings, one in only a community setting and two in school and community settings. Eleven were conducted in middle-high income countries, only one in a low-middle income country (Tilhaun et al, 2017).

*Programmes*

Six programmes had components which fell under the definition of both MHL and MHP, one studies had components that were purely MHL and five studies had components which were purely MHP. In terms of MHP, seven programmes targeted social, emotional and behavioural competence, seven targeted relationship building and social connection mostly through a form of peer or social support, four actively involved stakeholders. In terms of MHL, seven programmes targeted knowledge and recognition of mental health disorders, five targeted beliefs and stigma, five targeted management skills such as knowledge of how to seek help and self-help strategies. Seven programmes were described as being universal in their approach, six of these as specifically a whole school approach, two used participatory approaches, two targeted approaches which included population specific to Black African men and a selected group of teachers.

Six targeted CYP only, two targeted school staff only, three targeted CYP and school staff and one targeted community health workers. School staff included school counsellors, non-trained teaching staff, head teachers, deputy heads, community police officers, programme co-ordinators. Although programmes had a direct target, seven studies mention in-direct targets of the programme as well, including CYP, school staff and members of the community. Two programmes were digital, one was curriculum based, one used face to face teaching only, seven used multiple approaches, which included written resources, lectures, workshops, experiential learning, role play and peer support. Programmes really varied in their length and duration because of the varying platforms by which they were delivered.

*Design*

Regarding study design, four were a purely qualitative design, one used a multiple case study design, seven used mixed methods with quazi-experimental, RCT, CRCT and community intervention pre/post reported as the quantitative design. Two used participatory approaches. Regarding data collection, six used only face to face interviews, one used a mixture of interviews and observations, one a mixture of interviews and questionnaires, two used a mixture of interviews and focus groups, one a mixture of interviews and diary entries and one participatory workshop. In terms of analysis, one study was analysed using a data reduction technique, two using a framework analysis, one a constant comparison technique, one through grounded theory and seven through thematic analysis.

*Sample population*

There was a total of 351 participants in this review. The sample population included CYP aged between five and twenty-five, trained teachers, non-trained teaching staff including librarians and administrators, senior leadership, deputy head teachers, head teachers, school counsellors, school police officers, program co-ordinators, youth workers and community workers.

**Impact and outcome (N=9)**

1. **Mental health literacy and other transferrable skills (N=8).**

Outcomes included those targeted by MHP or MHL programmes such as improved knowledge, awareness, attitudes, stigma and confidence to help regarding mental health problems for themselves and others. Other skills were also found to develop through using programmes. These included transferrable skills like leadership qualities, critical thinking and public speaking.

**1.1 Knowledge and Confidence (n=8)**

Eight studies including both professionals and CYP described how the programmes had impacted upon their knowledge, awareness and confidence to recognise and respond to mental health problems (1-5,7,11). It was often believed that knowledge and an ‘enhanced self-concept’ were developed through the process of being empowered and having ownership over a programme that was being implemented (1,7,9). Knowledge and confidence were described as particularly improving through certain methods of delivery (4,7,11). For example, experiential learning components were suggested to help develop skills in the real-world application of knowledge leading to more meaningful and sustained behaviour change (4,7).

For CYP, participants described this increase in knowledge as leading to more noticeable behaviour change including better coping strategies lifestyle choices and appearing more confident (1,5). For professionals, increased knowledge motivated and empowered them to raise further awareness about mental health problems (2,3). Knowledge was highly linked to confidence, with increased knowledge being described as providing reassurance about existing practice and a lack of knowledge, minimising confidence and decreasing motivation to help (11). For teachers in one study, increased self-efficacy led to greater job satisfaction and a desire to stay in the field (7).

The cultural context is likely to have impacted the perception of impact of these programmes. For example, in more developing countries such as Ethiopia (2), participants are likely to have to have a lower baseline knowledge than in more developed countries.

*“Self-esteem increased, self-awareness and wanting to make healthier choices in day to day life” (1, young person).*

*“This knowledge motivated me to give health education to raise awareness in the community about misconceptions” (2, community health worker).*

**1.2 Attitudes and stigma (n=8)**

For both CYP and professionals, programmes (particularly those that focused on relationship building or included experiential learning or creative components such as role-play) were described as promoting empathy rather than sympathy and led to a reduction in stereotypes and myths about individuals and their communities, for example in the Urban Teaching Cohort, and the Social Networking for Action and Resilience. They also often appeared to give permission to begin to speak openly about issues (1-3,7,9). In two study’s teachers and members of the community reported an increased acknowledgement of young people’s strengths (9,11).

However, in the one community study, although the community health care workers reported that their knowledge of and confidence to raise awareness of mental health problems improved, stigma continued to be a barrier to taking action on this new knowledge (2). The cultural and social context of this study may have influenced this, being the only low-middle income study in the review (Ethiopia).

*“If you hear a story, I believe that something in you won’t let go because you connect with the real story” (7, student teacher).*

*“What affected my work was my own fear and misperception that family may not accept my advice and belief that cases should be cured, my negative attitude and misperception towards improvement of children with developmental disorders is a problem towards helping people” (2, community health worker).*

**1.3 Transferrable skills (n=4)**

For both CYP and staff, programmes that focused on relationship building led to the development of transferrable skills such as leadership, public speaking skills and the ability to think critically, for example in the peer support group and the SONAR digital app (3,7,9). In particular, staff valued programmes, which helped to develop their own critical thinking skills, reporting a more meaningful understanding of mental health problems (3,7).

*“The way I listen is a bit different, that what she is talking about, there is actually something below, there’s something else” (3, teacher).*

1. **Building Relationships and meaningful connections (N=8)**

Programmes focused on relationship building in different ways. For some it was through peer or social support. This was between professionals or between students such as the peer support service for teachers and a Facebook intervention for CYP (1,3). Other programmes focused on building positive student-teacher relationships such as the Urban Teaching Cohort Programme (7). For another it was between students and the community (9).

In eight studies, for both CYP and professionals, relationship building was spoken about in terms of either process or outcome in relation to the programmes (1,3-5,7,9-11). Programmes that provided a focus on peer support and meaningful interaction with others were valued because they were described as creating opportunities for people to openly discuss their feelings and experience, thus increasing participants knowledge of how to support their own wellbeing and others and reducing stigmatising attitudes and discrimination (1,3-4,9). In two studies including the experiences of both pre-service teachers, qualified teachers, members of the community and CYP, engagement in environments with people from various backgrounds offered valuable experiences that cultivated the ability to think and act in ways that support learning (7,9).

In four studies, the process of building relationships was described as helping to provide skills to develop and maintain future relationships (1,4-5,7). Programmes which emphasised and prioritised relationship building as a crucial element, saw outcomes of increased connectivity, social support, mutually beneficial partnerships and the creation of safe spaces, which were perceived as giving permission to talk about sensitive topics that in other contexts, wouldn’t have happened (1,3,7). The social support that this provided was used as a way to cope with current challenges. Similarly, this was for both CYP and professionals (1,3-4,10).

Building relationships between CYP, professionals and the larger community improved the sustainability of programmes because it facilitated a meaningful and sustainable vs superficial change in attitudes e.g. in the process of developing the SONAR app, members of the community began to describe CYP as making important contributions to the community (7,9)

*“Made me think more in-depth about mental health issues and it’s causes, made me look into research about mental health more than I would… I would never have thought about it before (1, young person).*

*“The way I listen is a bit different. that what she is talking about is actually something below, there’s something else” (3, teacher in reference to talking about a colleague)*

*“Cool to have kids bringing community stuff into school. It really made our teachers and students think differently… making connections with other people and looking at people differently (9, community stakeholder)*

1. **System level change (N=4)**

Four studies which included the views of professionals described seeing changes that were beyond the level of the individual, but also in the organisational culture and wider community (4,7,9,11). Professionals in two studies perceived programmes in the community as leading to community level change through raising awareness and helping to mobilise communities (7,9). Programmes that focused on peer support and building relationships such as the SEYLE study were also described as leading to system level changebecause discussions improved class bonds and the general school climate (4). Three of these studies used participatory and community-based approaches thus increasing the likelihood of this being raised as a theme.

*“I can see a physical presence at different community events, It helps give an avenue for engagement” (9, community stake-holder).*

*“Training helped me mobilise the community; this supports detection of cases” (2, community health worker)*

* 1. **Youth involvement promotes engagement and empowerment (n=3)**

Youth involvement was also spoken about in terms of being both a process and outcome. In two studies, which used a participatory design or community-based approach, professionals perceived sustained youth involvement to be a significant outcome (7,9). In these studies, the school, community and CYP collaboratively worked together and this process was described as creating opportunities for further engagement. Change was observed in how professionals and the community spoke about CYP. In one study CYP were described as becoming more visible and active in the community, which shifted dominant narratives about CYP and increased valuing of their voices. It also led to increased stakeholder interest (9).

*“Adults talk about teenagers a little bit differently now. They are seeing them do things and be active and I think that is actually becoming very positive” (9, community stakeholder)*

**Acceptability (N=10)**

Programmes were viewed as acceptable when they paid careful consideration to the context and population they were targeting in terms of its content, delivery platform, method of delivery and focus.

1. **Tailored training content and delivery facilitates engagement (N=7)**

**4.1 Creative and experiential methods of delivery (n=7)**

The three programmes, which included experiential learning were viewed by both CYP and professionals as having multiple benefits: developing critical thinking skills (7), enabling recipients to question dominant narratives that they may have held; building meaningful relationships and connections (9); providing real life application of skills and knowledge they had learnt in teaching; developing a meaningful understanding of factors that lead to mental health problems (4,7). Programmes that involved community-based teaching were viewed by professionals in a positive light because it helped them build meaningful relationships with students, learn about the community and therefore really understand the issues that were relevant to them (7,9). Creative programmes were viewed by CYP as successful in engaging them into conversations about mental health such as the use of role-plays and humour, for example in YAM and the Zippy’s Friends programme (4,5,10). Staff and students generally appeared to prefer multiple methods of delivery (1,4).

*“When you’re just expected to read and you don’t have the resources, it’s easy to psychologically shut down but if you hear a story, I believe that something in you won’t let go because you connect with that real story” (7, student teacher).*

*“The topics were examined in depth, but I felt like laughing, it was fun” (4, young person).*

**4.2 Plain language (n=5)**

For both CYP and professionals, programmes were described in five studies as needing to consider language. Language was frequently cited as a barrier and content of materials reported as confusing, reflecting the conflicting and complex mechanisms behind communicating and understanding mental health problems (1,2,4,8,10). Where this mis-understanding arose, for some CYP, it formed a barrier to engaging with the programme (1,4).

*“I didn’t understand the words that were used… Stuff I didn’t’ understand, I didn’t comment” (1, young person)*

*“Talking afterwards and reading about it…but if someone wasn’t there when they did the talk, they might have just read those and come to wrong conclusions.” (4, young person).*

*“The child mental health session was not clear… we need to learn in detail about each kind of disorder, using simple language” (2, community health worker).*

1. **Context is important (N=8)**

In eight studies CYP and staff highlighted the need for programmes to be designed and tailored to the population, social and cultural context, to be considered acceptable and engaged with (1-2,6-7,10). For example, programmes that addressed social determinants of mental health problems e.g. stigma, social isolation and masculinity through their platform or use of popular culture references such as in the SONAR app, urban teaching cohort and YBMen Facebook project, were described as having good engagement and positive outcomes (1,7,9). Programmes that focused on improving the understanding of the cultural and community context were viewed as successful in providing good relationship building skills (1,7). In one study in the community, it appeared that stigma related to autism was prevalent in that cultural context and highlighted it as an area of improvement for the programme (2).

It appeared that in a number of studies, the content of programmes was adapted to fit with the local cultural context (1,7,9-10). For example, some programmes, the content was influenced by social determinants of distress such as the WIT’s anti-bullying programme in Canada due to the knowledge of peer victimisation in schools in certain areas and masculinity as a major topic in the YBMen Facebook project due to the knowledge that this is a prominent issue for young black men. The fact that in some studies, social and cultural determinants were deemed more relevant means that the importance of considering contextual factors was more likely to be highlighted in these studies than others where this was less the case. In addition, four studies included participants that may have had links to the wider community and therefore this will have strengthened the importance of themes regarding contextual factors (1,2,7,8)

*“Before this I would never really have thought about masculinity but participating made me think about it more and I will continue to.” (1, young person).*

*“I wouldn’t understand power structures and how race, class affect students and me and education in the world” (7, student teacher).*

*“So, what I really liked about SONAR was that it took kids and you met here but you were actually talking about community things that were relevant outside… It’s so cool to have kids bringing some of that community stuff into school.” (9, community stakeholder)*

**6.Collaborative shared learning (N=7)**

This theme has overlaps with building relationships between staff, students and wider systems such as the community, which was also considered key to implementation but has mainly been explored within the impact and outcome of programmes to avoid repetition.

Six studies emphasised that the opportunity to learn from other people, either through peer support, a social network or the community was a positive part of programmes because it creating a ‘shared learning environment’, for example the peer support service, the YBMen Facebook group and the awareness program (1,3,5,7,9-11) . This was for both CYP and professionals. The experience of a welcoming space, where people valued connectedness was described as providing permission to discuss topics that in other social contexts would not have felt safe to discuss (1,3,7,10). Peer support was identified as an acceptable and effective programme for staff, where staff felt valued, it increased their ability to cope with difficult situations at work and increased likelihood that difficulties that were impacting on work and support of students were noticed early and prevented (3).

*“People just need somebody to listen to them, spend time and care…. sends a message to staff that we care about you, there is a network if you need it” (3, teacher).*

*“I enjoyed being in a place where I could hear the opinions of other black men. Everyone just being themselves. I could talk about some real deep topics, you don’t get that often… not with black men” (1, young person).*

*“We share stories which, again, create this connectivity, which then creates this sort of safe space to talk about issues that are real” (7, student teacher)*

**Implementation (N=10)**

Implementation was only referred to by studies which reported on the experiences of professionals and programme facilitators.

1. **Consider the organisation and the wider contexts (N=9)**

Contextual factors were repeatedlyhighlighted as impacting upon implementation of programmes from within the organisation and spanning out to the broader socio-political context. However, it is important to acknowledge that the wide ranging geographic, cultural and economic context of each study will have also impacted upon the contextual factors that were considered more or less important.

**7.1 Organisational factors: Capacity and staff attitudes (n=9)**

In four studies, participants spoke about staff expectations and attitudes towards programmes. In three of these studies these attitudes were identified as determinants of successful implementation. For example, negative attitudes such as programmes being a ‘flavour of the day’ or that mental health was not their job (3,8) had a negative impact upon implementation whereas more positive attitudes such as open-ness to change and believing the programme would make a positive contribution, facilitated implementation (6,11,12). In one study, initial negative attitudes had a lasting impact despite the programmes being adapted (12). In another study, front line teaching staff’s attitudes towards programmes were described as having a knock-on effect for the senior leadership team such as taking all responsibility for programmes to avoid their rejection by staff or trialling programmes themselves before rolling them out, which increased uptake time and limited dissemination (8).

Staff attitudes and perceived capacity within the organisation appeared very linked, which is why these have been grouped together under one theme. Capacity included staff workload, staff wellbeing and turnover, allocation of resources such as time allocated to spend on the programme and competing initiatives (2-3,6,8,10-11). One study which explored the views of programme facilitators of the Beyond Blue initiative reflected on the additional burden that the programme had on staffs existing workload, which may have had a negative impact upon implementation and therefore outcomes (12). An atmosphere of increased pressure on staff, curriculum demands, and competing initiatives appeared to lead to resisting attitudes such as ‘imposing on values’, ‘unnecessary’ and being a ‘fad’ or ‘flavour of the day’ and appeared to lower motivation and commitment (8,11,12). Openness to change was a facilitating attitude for the marketing of programmes and was linked to staff cohesiveness (6,8).

Contextual factors between settings and organisation may have influenced the themes highlighted. For example, the size of school is a known influence on culture and therefore the impact and integration of programmes. Primary schools such as where the WITS and PEP programmes were delivered (6,11) tend to be more child focused than subject focused thus increasing the likelihood that MHP programmes focusing on social and emotional competence being received with positive staff attitudes thus facilitating implementation than perhaps in a secondary setting such as where SEAL was delivered (8). The inclusion of high- and low-income studies will have impacted which themes were highlighted. For high income countries, the introduction of mental health initiatives is more common and thus is more likely to be viewed in a context of competing initiative’s than low income studies where mental health initiatives will be less common.

*“I’ve got 40 minutes and my priority is they leave the room knowing about particle theory, the fact they’re emotionally illiterate, well that’s not my problem” (8, secondary school teacher).*

*“You get the isn’t it just another of these ideas from the government that will fade out, do it for a couple of years and then it’ll be ‘we’ve got another idea now, there is cynicism from people who are a bit weary of initiative after initiative” (8, secondary school teacher).*

*“I felt, I still feel a little bit like we gave them too much to do and too short a time line and they struggled so they’d be really exhausted” (12, programme Facilitator).*

**7.2 The broader cultural, social and socio-political context (n=4)**

Mental health problems were often spoken about in relation to broader contextual factors causing them such as cultural, community, financial, social and health related factors. Participants reported that where programmes took these into account, it facilitated implementation because the programme was viewed by staff as relevant (2,12). Two studies described challenges relating to organisational capacity as being beyond the control of SLT and champions, existing at a broader level, for example the governmental emphasis on academic outcomes or the introduction of competing initiatives, which resulted in competing and conflicting priorities and reinforced low expectations for new programs, particularly in terms of their sustainability (6,8).

The current political and economic context of each country in which the study took place in terms of its educational and health care systems will have impacted upon implementation. For example, in Lendrum et al (2013), the study took place in a time of union action which may have impacted uptake. However, this is not dissimilar to studies that took place in the UK where there has been a continuing context of cuts and re-structuring (3). The economic status of the region or country where the study took place and the funding body of the research will impact upon implementation. Some studies sampling aimed to be representative of social and economic status, for example having a large number of schools from different areas (8,12), however others did not report this in their sampling method information, thus the potential impact upon implementation is not known (6,7).

*“Lack of health services (treatment, care and support) and special schools to help these children and their families in the rural areas are the most important barriers” (2, community health care worker).*

*“We have five inset days a year, there are huge demands on those for everybody… the demands on teachers are phenomenal”. (6, SLT).*

1. **Discovery and buy-in (N=9)**

Nine of the studies that looked at implementation of programme mentioned in some way, the need for buy-in and this being at all layers of the system including front line staff, SLT or management and stakeholders (2,4,6,8-12). Discovery and buy-in isn’t something that is only considered at the beginning of an implementation journey but needs to be addressed throughout to ensure sustainability. Buy-in related to themes of ‘Aligning with the system’ and the ‘organisational context’ because when considered together this appeared to facilitate implementation.

**8.1 An iterative process (n=7)**

In seven studies, “Buy-in” was described as being an iterative process that took time (3-4,6,8-12). In one study, it was referred to as a process of ‘discovery’, this being the willingness to consider a programme and was something that took time or multiple attempts (6). Another study emphasised the ‘buy-in’ by the organisation to be sustained, there needed cyclical process of feedback and amendment to consistently assure the programme aligned with the organisation’s needs and culture (12).

*“When I started it was becoming embedded, most teachers were talking about it, now it’s deflated, partly because we aren’t publicising it, you need to push it, sell it as a concept”. (6, SLT).*

**8.2 Practice based evidence and evidence-based practice (n=3)**

Evidence of a more anecdotal and practice-based type, internal to the school (6,11) as well as statistical evidence from policy, research and data (12) was highlighted by teaching staff in three studies as important and a perceived lack of evidence increased the likelihood of misperceptions. This supports the experiences of ‘buy-in’ needing to be iterative as it takes time for staff to see evidence in their work of programme effectiveness.

*“I mean you want something tangible, but I just can’t work out what evidence exists, recall in terms of what statistical research evidence that exists” (6, teacher focus group).*

*Like every program, if it is seen as an add on, teachers will always say “okay my plate is this big”, “you’ve given me something to put on that plate, what comes off”. If you can convince them that what comes off is five or six interactions a day between children that they are able to handle on their own then you’ll see “give me a helping of that, put it on my plate”. (6, SLT)*

1. I**nfrastructure (N=5)**

There was a lot of overlap between the themes of infrastructure and expectations/attitudes because if the infrastructure was in place, such as providing the appropriate resources, attitudes were more likely to be motivated and open to the programme.

**9.1 Resource allocation (n=5)**

Five studies cited a lack of resource allocation as a barrier to implementation, including training, time, scope of training and heavy workload. This was in both school and community settings and across geographies and economic contexts (2-3,5-6,8,11-12). Staff highlighted the necessity of programmes being resourced properly within the school to improve their impact and acceptability (3,6,8,11-12). Provision of training was considered important to support understanding and therefore implementation (11,6,). In one study, teachers felt they hadn’t had enough training to equip them with the knowledge and skills to deliver the programme (8).

The specific organisational context of each study and where the programme was disseminated will have impacted the themes that were highlighted. For example, in rural schools such as in Lendrum et al (2013), staff turnover is known to be more common, therefore increasing the likelihood of this being raised as a theme. In schools with a less hierarchically organisation, dissemination is often more reliant on the motivation of individuals thus increasing the likelihood of this theme being raised.

*“People have got in their mind all the time saying. “well is this SEAL really…and it’s just…it encompasses so many things”. (8, teacher).*

*“Another powerful lesson for us, which we always articulate to our colleagues, is if you’re going to do this, you’ve got to resource it properly and understand there is a commitment required there (6, teacher).*

**9.3 Supportive and committed leadership (n=4)**

In four studies, supportive and committed leadership were considered important for successful implementation because it facilitated ‘buy-in’ and allocation of resources (3,6,8,12).

*“I learned that leadership is critical. I just think it made a huge difference and leadership style so leadership in terms of mandate and permission to go ahead and take the risks and make the priority and use your authority” (12, programme facilitator)*

**9.2 Participation and ownership (n=7)**

Seven studies suggested that the involvement of CYP, staff and other relevant stakeholders in the design, planning and implementation of programmes facilitated successful implementation (3-4,6,8-9,11-12). Participation enabled recipients or those implementing programmes to have a sense of ownership (6,8,12). Collaborative participation helped to share responsibility and ensured that certain members of staff didn’t feel that they were responsible for the entire delivery of a programme (6). This addressed the dilemma’s highlighted in the theme below of flexibility vs prescription as the process of involvement facilitates the development of a clear understanding of the essential components of a programme and how it should be adapted to fit the context (6,11). In two studies, which both involved CYP either through their perspectives on the main issues within the school (12) or through a participatory design (9), participation enhanced relevance to stakeholders and ensured that the programme was adapted to really meet the need of the population it was targeting.

*“So it’s really embedded, there’s a common language between pupils and staff… pupils now they go and something they hear older peers talking about… it’s really sustainable” (6, teacher).*

*“They really took it on, they sat, they looked at it, they analysed it and talked about it within their team ‘oh gosh’. You know we didn’t realise that the kids didn’t trust us to that extent’… so that immediately started their thinking around. how can we build or strengthen the trust between us and the kids.... And then we’d then consult the supporting environment issue in the manual and other areas in the school” (12, programme facilitator)*

1. **Aligning with the system (N=7)**

**10.1 Becoming part of the whole (n=5)**

Five studies spoke about programmes needing to tailor and adapt to the system in which they were being implemented and that their needed to be a ‘goodness of fit’ between the system and the programme (2,6,8,11,12). When programmes aligned successfully with the system, this was linked to there being a shared and collective language that facilitated the embedding of programmes, which was referred to as a key component for sustainability (6,8,11,12). Successful implementation of programmes was viewed as more likely if a school has things in place so that their introduction was not seen as too new or different (6,8,11).

*“Prior to implementing WITS, the school had paid good attention to values development, so it wasn’t like the school had to have WITS, it’s just been another new tool to further work on” (6, teaching staff)*

**10.2 Flexibility vs prescription (n=6)**

The dilemma of flexibility vs prescription of programmes was highlighted in six studies. In the majority of study’s flexibility was valued as it provided some ownership and therefore commitment to a programme and ensured that the programme aligned with the fit of the setting (3,6,11). In one study the flexibility was particularly valued so that they didn’t have to invest time and resources on an area which wasn’t as high priority (12). In one study with an RCT design, the lack of flexibility was highlighted by programme facilitators as a barrier to implementation (4). However, in one study some prescription and a guided framework felt necessary to avoid confusion, which was identified as a barrier to progression with the programme (8).

*“Which topics are important for us? What do we need to do as a team? What do you implement in which grade? You can make the decisions fit to the school” (11, teacher)*

**Discussion**

The adaption and adoption of MHP and MHL programmes present a unique set of challenges. Programmes aren’t always implemented in the same way, which has an impact on their perceived acceptability and outcomes. Although the evidence base of the effectiveness of MHL programmes is growing, an understanding of how they are implemented in real world conditions is relatively under-developed in comparison to MHP. Although research into the implementation of MHP programmes is further ahead, studies of a qualitative design are still lacking. This systematic review examines qualitative studies that explored the experiences and perspectives of CYP and non-mental health trained professionals and programme facilitators regarding the impact, acceptability and implementation of programmes targeting MHL or MHL in schools and community settings. Training programmes targeted CYP, school staff and professionals within the community. There were twelve included studies that used focus groups, telephone interviews, diaries and observations. The studies were undertaken in the UK, Canada, USA, Australia Netherlands, Ethiopia, Estonia, Italy, Romania, Spain, Austria, France, Germany, Hungary, Ireland, Israel and Slovenia.

**Impact and outcome**

Overall, the studies indicated that programmes improved components of MHL such as knowledge, positive attitudes, and confidence to support the mental health of CYP and professionals. Other outcomes included transferrable skills including public speaking, leadership skills and critical thinking. Building relationships and meaningful connections was both a process in which individuals gained knowledge, reduced stigmatising attitudes and increased motivation to learn, but was also an outcome in which they gained the skills to develop and maintain relationships with others. Change beyond the level of the individual and in the surrounding system seemed especially the case in studies where programmes had meaningfully involved CYP, promoting longer term outcomes of sustained participation and engagement. These outcomes are consistent with other reviews of MHP programmes, which report a wide range of beneficial effects on both individuals, classrooms, families and communities on a range of mental health, social and emotional outcomes (Weare & Nind, 2011; Yamaguchi et al, 2019).

The qualitative evidence corresponds with the quantitative MHL literature which consistently shows that programmes improve knowledge and positive attitudes towards mental health, although effect sizes are often reported as medium-low (Anderson, Werner-Seidler, King, Gayed, Harvey & O’dea, 2018; Yamaguchi et al, 2019) and another qualitative systematic review which focused non-mental health trained professionals (Scantlebury, Parker, Booth, McDonald & Mitchell, 2018). MHP emphasizes two key concepts: power and resilience with power being defined as a person’s, group’s or community’s sense of control over their life, and the ability to be resilient (Joubert & Raeburn, 1998). Programmes aim to target this through the components of social and emotional competence and the active involvement of CYP, schools and communities. Both of these targeted outcomes were consistent with the themes arising from the systematic review of building relationships, youth involvement and collaborative shared learning and shows consistency with the quantitative literature that MHP programmes successfully improve social competence (Adi et al, 2007; Beelman, 1994 & Beelman & Losel, 2006). The importance of building relationships both as a process and outcome of programmes targeting CYP is consistent with other literature that reports building relationships as the platform for all work with CYP (Law et al, 2018; Repper & Carter, 2011). Research consistently shows that positive student-teacher relationships can promote student mental health (Denny et al, 2011; Haynes, Emmons & Ben-Avie, 1997).

Youth involvement was considered an important outcome that was in part a contribution to the wider systemic changes that studies reported. Systemic change in surrounding environments such as the classroom has been noted in other studies as an outcome of MHP programmes (Barry, Clarke, Jenkins & Patel, 2013; Durlak and Weissberg, 2007). Checkoway et al (2003) reports that youth participation in programmes helps to challenge the dominant view that depicts CYP as vulnerable, troubled and incapable, a perception perpetuated by the media, research and practice.

**Acceptability**

Perspectives on the acceptability of programmes varied. There was a lot of focus on the content and methods of delivery of programmes. Programmes that were creative, strengths based and involved experiential learning components such as the YAM experience and Urban teaching cohort programme, facilitated engagement, whereas professionalized or culturally inconsistent language and information heavy resources reduced engagement. This aligns with other research examining acceptability of programmes for CYP (Das et al, 2016). Mcallister, Knight, Hasking, Withyman and Dawkins (2018) suggest that there needs to be a variety of methods to develop meaningful knowledge and understanding of mental health in CYP. Passive learning does not allow for the discussion and debate that helps a learner to test out their ideas and to articulate their beliefs. However, in this systematic review, this also seemed applicable to professionals. Other reviews mental health programmes for CYP and non-mental health trained professionals have also highlighted the importance of multi-method and interactive training (Dunst & Trivette, 2012; Scantlebury, Parker, Booth, McDonald & Mitchell, 2018; Weare & Nind 2011). Scantlebury, Parker, Booth, McDonald and Mitchell (2018) in their qualitative systematic review of non-mental health professionals receiving mental health training programmes, report that those including dramatization, role play and interactive elements were valued and viewed as beneficial for learning. Weare and Nind (2011), in their review of universal MHP programmes for CYP reported a need for multiple methods that include interactive methods, as well as didactic, to ensure acceptability and engagement.

Programmes that had a focus on shared learning, either through peer support/social support or experiential learning e.g. the Facebook intervention, SEYLE study, YAM experience and Urban teaching cohort programme were viewed positively because they facilitated connection, provided permission and opportunities for expression and broke down stereotypes or stigmatising attitudes. Peer support has been identified in another systematic review of mental health promotion programmes for CYP in low to middle income studies because of its ability to reduce distress caused by social factors (Barry, Clarke, Jenkins & Patel, 2013). For staff, they reported greater satisfaction and fulfilment. Teachers often enter teaching to make a difference or help people and therefore passion for work may help sustain teachers, increase work satisfaction and decrease burnout (Carbonneau, Vallerand, Fernet & Guay 2008). Through programmes such as the peer support service, staff may feel better equipped to avoid common sources of stress and burnout and be comfortable empowering young people. Increased staff retention could help to overcome identified barriers to implementation of programmes such as high staff turnover.

Programmes were more acceptable when taking into account the populations culture and social context to inform its design, method of delivery and platform. Reports on health promotion programmes within schools, refer to the Settings Approach, which advocates that schools should be an integral part of the community (Tones & Green, 2004). The studies which involved/had links with the community within this review were perceived as highly acceptable to both professionals, CYP and community members which facilitated both engagement with and sustainability of programmes.

**Implementation**

The organisation and wider context, ‘buy-in and discovery’, infrastructure and aligning with the system, arose as four distinct meta-themes. The organisation’s capacity for a programme and staff attitudes and expectations about it, impacted on implementation. This was linked to the social, cultural and socio-political context, which influenced staff beliefs. All layers of a system need to “buy-in” and therefore commit to a programme. ‘Buy- in’ was seen as an iterative process of programme promotion, providing evidence of the programmes benefits to staff and developing a shared and clear understanding of its essential mechanisms, through the use of multiple co-ordinated strategies. An infrastructure of appropriate resource allocation, supportive and committed leadership and participation by stakeholders affected by a programme was crucial for successful implementation. Programmes which aligned with the specific system within which they were being implemented by becoming a part of its existing ethos, culture and initiatives were more likely to be viewed as successful. Stakeholders mostly valued flexibility in the implementation of programmes to ensure sustainability and engagement by staff, although there was also a want for some prescription and structure.

The themes identified are inconsistent with a review of MHP programmes by Weare and Nind (2005), which identified necessary characteristics for effective implementation as well defined goals and rationale, direct and explicit focus on desired outcomes and complete and accurate implementation. The themes are more consistent with a multi-ecological perspective framework of implementation (Durlak & Dupre, 2008). Durlak and Dupre’s (2008 framework in their review of over 500 studies, identified at least 23 contextual factors that influence implementation discussed under five categories: community level factors; provider characteristics; characteristics of the innovation; factors relevant to the prevention delivery system (organisational capacity) and factors related to the prevention support system (training and technical assistance).

The theme in this systematic review of ‘the organisation and wider contexts’ is consistent with another qualitative systematic review, which identified organisational factors such as resource allocation and buy-in and staff willingness and training as key to implementation of mental health programmes (Scantlebury, Parker, Booth, McDonald & Mitchell, 2018). This theme can be viewed as part of Durlak and Dupre’s (2008) frameworks ‘community level factors’, which considers the importance of Government policy, funding and the impact of the wider community on how a programme is implemented. This also supports other implementation frameworks, which inform implementation and evaluation of public health initiatives, where context is viewed within Bronfenbrenner’s social ecological framework (Atkins et al, 2008; Bronfenbrenner, 1979; Eriksson, Ghazinour & Hamerstrom, 2018; Langford, 2003; Vanderkruik & Mcpherson, 2017).

Durlak and Dupre’s (2008) category of ‘organisational capacity’ links to the theme in this systematic review of ‘infrastructure’ and is consistent with other research reporting that without appropriate infrastructural support, evidence based school practices are not implemented with sufficient consistency or quality to obtain outcomes (Biglan & Taylor, 2000; Feuer, Towne & Shaverlson, 2002; Weist & Paternite, 2006). Key inter-connecting factors were highlighted regarding infrastructure including workload, time, resource allocation, a driven champion or network, support from leadership, specialised training, staff turnover and competing initiatives. Durlak and Dupre (2008) highlight effective leadership as crucial to implementation and that programme champions are a valuable resource to encourage innovation and ensure sustainability and is consistent with other research (Kallestad & Olwus, 2003; Macdonald & Green, 2001).

Durlak and Dupre’s (2008) implementation factor of ‘shared decision-making’ links to the theme of ‘participation’. Having involvement and some ownership of the design and delivery of programmes was highlighted as important for both professionals and CYP to facilitate implementation, achieve meaningful outcomes and sustainability, consistent with other research (Berman & McLaughlin 1976; Kegler & Wyatt 2003; Mihalic et al, 2004). The findings are aligned with other health promotion practice models which recommend a careful study of community needs, resources, priorities, history and structure in collaboration with the community “doing with” rather than “doing to” (Macnab, Gagnon & Stewart, 2014).

The fit between the programme and the organisational ethos and efforts to align programmes to guidelines and values in ways that did not cause too many changes, facilitated acceptability and sustainability. Durlak (2016) reports that there needs to be a good fit between a school’s general culture, values and operating practices and staff to have realistic expectations about possible benefits conceptualised as ‘innovation characteristics’ in their framework. The dilemma of flexibility vs prescription is a debate consistently found in the implementation field (Blakely et al, 1987). Some researchers consider programme adaptation as an implementation failure whilst others acknowledge that fidelity and adaptation frequently occur and that each are important to outcomes. Within this review choices regarding flexibility vs prescription often related to contextual factors such as infrastructure, capacity of the system or cultural beliefs.

**Clinical implications for practice and policy**

This review highlights the critical relevance of implementation in MHP and MHL programmes in schools and the community and its reciprocal links to perceived acceptability and outcomes. It also highlights the complexity of these systems to deliver programmes and the huge organisational effort and resource allocation that is required. The themes arising in this review are consistent with other reviews of MHP initiatives which recommend multi-faceted and multi-level programmes (Devaney et al, 2006; Greenberg et al, 2003; Weist & Murray, 2007) and thus supports a whole system approach which requires change to policy, participatory relationships and support and appropriate resourcing for all stakeholders (Devaney et al, 2006; Greenberg et al, 2003; Wyn, Cahill, Holdsworth, Rowiling, Carson, 2000).

Across settings, ‘readiness for change’ is identified as an antecedent to successful implementation of new services (Adelman & Taylor, 1997; Armenakis, Harris & Mossholder, 1993) with research finding that up to 50% of large scale organisational change failing because adequate readiness has not been considered (Armenakis et al, 1993; Kotter, 1996). Given the increased attention to school mental health programmes recently, researchers have been increasingly considering the importance of ‘organisational readiness’ (Hustus & Owens, 2018). These findings report that assessing stakeholder perceptions are informative to understand the whole systems readiness, and leadership support facilitates readiness, consistent with the findings of this review.

Capacity building has been identified in the literature as key to implementation of programmes (Leeman et al, 2015) and links to the themes of organisational context and infrastructure within this review. Building capacity is more than enhancing practitioner knowledge and skills but demands a social ecological approach, which includes interpersonal processes, institutional factors such as rules and regulations, community factors such as connections among groups; policy factors and relationships between national, state and local levels. Capacity building activities promote the following kinds of change. At the individual level, adoption of healthy behaviours and safe practices. At the policymaker and practitioner level: acquisition of the knowledge and skills needed to advocate for and implement evidence-based practices. At the organisational level: adoption of policies, creation of structures and operating systems and dedication of time and financial and human resources that support delivery of evidence-based practice (Stokols, 1996; Whitman, 2005).

However, both organisational readiness and capacity building as initiatives to improve the implementation, acceptability and therefore outcomes of programmes, requires appropriate funding. In the current context of austerity and increased financial pressure from increased demand but reduced budgets, which impacts many of the countries included in this review such as the UK and Europe, these programmes themselves are unlikely to be appropriately resourced (Cummins, 2018). Although programmes implemented by non-mental health trained professionals such as teachers in school settings have shown positive effects, this is another demand placed upon teachers in a context of insufficient resources and support (Fazel, Hoagwood, Stephan & Ford, 2014).

Involving staff and CYP in the design, development and dissemination of programmes overcomes some of the challenges described above as well as reducing resistant attitudes because it ensures programmes are tailored and adapted to fit with the values and the capacity of the specific system. Health promotion in schools and the community has been construed as a social process of individual and collective empowerment (WHO, 2000). It is increasingly recognised that many public services can be more relevant, effective and even affordable when they are designed in partnership with the people who use them (Palumbo, 2016). Co-production, with both recipients and implementers of programmes, should be considered for their design and delivery.

The collection of systematic data on programme implementation clearly has a positive effect on advancing knowledge on best practice. Communities, particularly school communities are highly complex and messy settings. To understand schools in more sophisticated ways, projects need to have evaluation designs that take the complexity of the school system into account. Process evaluation techniques have been highlighted by literature on implementation of mental health programmes in schools and the community as important to assess the quantity and quality of implementation as they place emphasis on both process and outcome and acknowledge the complexity of community and school systems (Chen, 1990; Saunders, Evans & Joshi, 2005).

Currently in the evaluation of MHP and MHL programmes, considerable attention is given to quantitative health and behavioural outcomes. More textured accounts of experience continue to rarely be published. Qualitative research can contribute to elucidate meaning attributed to behaviours and experience, which is invaluable for the development of these programmes, especially in the current research climate of methodologically poor-quality quantitative designs and outcome measures in this area. Qualitative data helps to overcome the restrictions of RCT designs, which often don’t translate into real world application of programmes. Including the perspectives of all stakeholders involved in a programme is beneficial to facilitate sustainable implementation and outcomes.

**Limitations**

By undertaking a meta-synthesis of the qualitative evidence, an in-depth understanding of the participants perceptions of the impact, acceptability and implementation of programmes has been achieved, which may not have been possible through considering only the quantitative evidence. A limitation of the review is the quality of the included studies, which may have limited the strength of the recommendations and conclusions drawn. The whole review was undertaken by one researcher and so was not reviewed by an independent researcher. Whilst the search attempted to be systematic and comprehensive, it was only from two data-bases and only included studies in English and peer-reviewed journals.

Studies from all countries were included however there was an over-representation of studies in USA, UK and Canada. We cannot be clear of the reasons for this. Context is often an issue for qualitative reviews as well as quantitative reviews. The different experiences and common understandings may differ according to where the research took place. The different models of service delivery context in other countries means that direct comparisons are challenging and may have limited applicability to the findings in this review. Responsibility for the mental health of children in schools in terms of services, varies greatly between countries and is affected by differences in cultures and structuring of health and school settings (Fazel, Hoagwood, Stephan & Ford, 2014). For example, the USA introduced the Individuals with Disabilities Education Act, which has placed more responsibility on the education system for student mental health (US Department of Education (IDEA, 2014). The inclusion of both high- and low-income countries in the study will have impacted the themes drawn. Schools in high income countries (where the majority of these studies came from), have for a long time delivered public health education and services whereas the low-income studies, programmes will be much newer (Mason-Jones et al, 2012).

Both MHP programmes and MHL programmes were included in this review due to the sparse qualitative literature that currently exists evaluating MHL programmes. A disadvantage of including both is that the purely MHL programmes tended to be much shorter in length (one days training) where-as the MHP programmes because of how they are designed, were implemented for a much longer period before being evaluated. This again will have greatly impacted the themes highlighted. It is important to note however that in reality, many of the MHL programmes included the same constructs of MHP programmes of peer support and social inclusion and the active involvement of stakeholders.

Studies were included in different settings, including the community and colleges as well as schools. In hindsight, this may have limited some of the generalisations that can be made, and future reviews may want to limit inclusion to a specific context. However, common themes of paying attention to the multi-layers of context surrounding CYP, supports the inclusion of studies exploring their perspectives. It can still be useful to look at the learning from programmes to identify common core principles of effective practice in the promotion of CYP mental health.

The number of themes and learning points generated from the three variables, outcome, acceptability and implementation was not anticipated. They were included because of the limited literature in this area. However, as the research in this field is expanding, future systematic reviews may benefit from exploring one of these variables in more depthM with perhaps a more rigorous qualitative analysis such as meta-ethnography (Noblit & Hare, 1988). Programmes involving parents as recipients was not included in the eligibility requirements of this review, which in hindsight was a limitation as they are a crucial stakeholder within Bronfenbrenner’s ecological framework (Bronfenbrenner, 1979).

**Conclusion**

In conclusion, MHP and MHL programmes targeting the mental health of CYP are generally perceived as acceptable by relevant stakeholders including CYP themselves and non-mental health trained professionals in community and school settings internationally. Outcomes achieved by these programmes are important and in line with their intended aims: to increase MHL and coping skills, expand social support networks, empower CYP and staff and positively impact on other areas such as the ability to think critically and to be open with others about difficulties. The ripple effect of these programmes into the surrounding organisation and community is a powerful impact that is not easily measured. The complexity of these programmes and the settings within which they are introduced, understandably make their implementation and sustainability a challenge, which shouldn’t be under-estimated. The impact of broad contextual factors highlights again the need for all relevant stakeholders up to a government level to be engaged and involved in the design, development, deployment and review of these programmes, to ensure the necessary support is provided. Although the target of these programmes is to support the mental health of CYP, the capacity, wellbeing and attitudes of the professionals supporting them are vital to consider and cater to.

# An Evaluation of the Efficacy, Feasibility and Usability of MindAid, a Mental Health Literacy Training Tool for Secondary School Teachers

## Abstract

Background: Early identification and prevention are increasingly recognised as approaches to successfully address the increasing prevalence of mental health problems of children and young people. Schools and teachers have been identified as having a key role in mental health promotion and prevention. To improve the mental health literacy (MHL) of teachers, MindAid, a digital MHL training programme for teachers was developed. This study evaluated its efficacy, usability and feasibility.

Methods: The mixed methods, longitudinal controlled trial was carried out with 145 secondary school teachers from six secondary schools in the UK. Teachers were assigned into an intervention group to trial MindAid for three months immediately or a control group who did not receive MindAid until post-data had been collected. MHL was measured pre/post the three-month intervention period using four scale-based questionnaires, which assessed overall MHL and individual attributes of MHL, stigma and behaviour. This provided a base-line assessment of MHL and assessed whether MindAid led to improvements in MHL compared to a control group. Usability and feasibility were explored through follow-up telephone interviews with school staff, which were thematically analysed.

Results: Teachers baseline levels of MHL were comparable to those of the general public and were lower than that of mental health professionals. They were good at recognising the existence of a mental health problem and indicated positive beliefs about professional help options. They were poor at specifically identifying what the mental health problem was. After 3 months there were no significant improvements in teachers MHL in comparison to the control group. Teachers usage of MindAid was low. Qualitative themes highlighted that MindAid was perceived as a usable and accessible resource but that there was not enough time to use it because of increasing workload and a lack of prioritisation of mental health initiatives within schools.

Conclusion: Digital MHL programmes are usable and accessible resources within schools. However, careful attention needs to be paid to the implementation of such resources within schools. A whole school approach is recommended and a focus on implementation in future research.

**Introduction**

Mental health problems in children and young people (CYP) have increasingly been recognised as a major public health concern globally (Patel, Fisher, Hetrick, & McGorry, 2007). Childhood and adolescence have been identified as crucial stages for developing the foundations for positive mental health. The promotion of mental health and the prevention of mental ill-health require a multi-level approach with varied delivery platforms. Schools have recently been highlighted as having the potential to contribute enormously to the wellbeing of CYP (Department of Health [DOH], 2017).

**CYP mental health**

Worldwide, it is estimated that 10-20% of adolescents experience mental health conditions. In the UK in 2017, one in eight children aged two to nineteen had a diagnosable mental health problem according to the International Classification of Disease (ICD-10) diagnostic criteria (NHS digital, 2018) an increase from one in ten in 2004 (Green, Mcginnity, Meltzer, Ford & Goodman, 2005). Half of adult mental health problems begin before the age of fourteen and 75% start by the age of twenty-four (Kessler et al., 2005). The impact of mental health problems in CYP is well-evidenced for both the individual concerned, in terms of employment, education, physical health and contact with the criminal justice system (Fergusson & Woodward, 2000; Murphy & Fonagy, 2012) and wider societal costs to public service, health, social care and the criminal justice (Knapp, McDaid & Parsonage, 2011).

Steps have been taken to improve services for CYP but so far demand has outstripped supply with children reportedly waiting over six months for contact with a mental or physical health specialist, or for educational support services (NHS digital, 2018). More easily accessible interventions are required to address the clinical need.

**The role of schools and teachers**

Since 2013, a wealth of reports have been published by the UK Government to address the service challenges highlighted above to improve the lives of CYP, with a focus on early identification and prevention (The National Health Service, 2017; DOH and Department of Education [DOE], 2017; DOH, 2015). Schools have been highlighted as crucial because of the fundamental role they play in not only the academic improvement of children and youth but also in their social and emotional growth (Anthony & Mclean, 2015; Clarke & Barry 2015; Fortier, Lalonde, Venesoen, Legwegoh & Short, 2017). Children spend a significant amount of time at school and this provides many opportunities to assess indicators of mental health problems, particularly those that may have been missed at home (Atkins, Graczyl, Frazier & Abdul-Adil, 2003). School-based mental health reduces costs through preventative actions, ultimately reducing the number of children who would otherwise require more intensive services later in school, such as special education (Weist & Murray, 2007). Schools are therefore pivotal settings as a first point of access, leading to appropriate screening and treatment for CYP (Patalay, Giese, Stankovic, Curtin, Moltrecht & Gondek, 2016).

Bronfenbrenner’s (1989) developmental-ecology theory provides a framework for the importance of school-based mental health. It highlights the interrelations and impact of a child’s school, peers, parents, community and society on his or her development, and emphasises the necessity of involving all stakeholders for interventions to be effective. Bronfenbrenner’s revised bioecological model includes all students, teachers, school support staff, school social workers and psychologists, parents and policy makers as proximal factors that participate in mental health care.

Teachers are extremely well-placed to support the emotional wellbeing of CYP. They spend a significant amount of time with them and their foundation knowledge of normative development and position in a child’s microsystem should help equip them to recognise and respond to child mental health problems (Kieling et al, 2011). Teachers are reported to commonly be the first to notice if a child is experiencing problems with their emotional wellbeing (HOC & HOE, 2017). Amongst CYP seeking help, three quarters report initially approaching a teacher (Vostanis, Humphrey, Fitzgerald, Deighton & Wolpert, 2013) and parents are more likely to seek advice or help regarding a disorder from a teacher than any other professional (Kessler et al, 2010). It has been shown that social and emotional growth can be nurtured explicitly through direct instruction in the regular classroom setting (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011). This provides substantial evidence of teachers’ role in supporting CYP’s mental health and facilitating access to appropriate and timely treatment. As a result, there is an increasing expectation for teachers to assume responsibility for the identification and referral of CYP with mental health problems. This is reflected in the recent Green Papers proposals of designated leads for mental health in schools, integrating mental health and wellbeing into the curriculum and recommending mental health awareness training for all teachers (DOH, 2017).

However, as it stands, many teachers report little or no mental health training (Vostanis, Humphrey, Fitzgerald, Deighton & Wolpert, 2013), highlighting a discrepancy between what is being expected of teachers and the appropriate training that is being provided to them. Teachers tend to lack the necessary knowledge, understanding and skills and are already stretched in fulfilling their educational role. The 2016 Department for Education’s Teacher Voice Omnibus Survey reported that whilst 57% of teachers felt equipped to identify behaviour linked to mental health issues, 23% did not, and whilst 40% of teachers felt equipped to teach children with mental health problems in their class, 34% did not (Smith, Tattserall, Rabiasz & Sims, 2017). This lack of mental health knowledge has wide-reaching implications. Teachers report feeling overwhelmed with this additional responsibility, which in turn has been shown to affect their readiness to help (Sisask et al, 2014).

Surprisingly, very few studies exist that examine the current levels of mental health literacy (MHL) in teachers. The research that does exist uses varying methods to assess MHL, which makes drawing comparisons difficult (Green et al, 2018; Miller et al, 2019; Ozabaci, 2010). In addition to this, no studies exist examining teacher MHL in the UK, further limiting comparisons due to the differences in pre-service training and education systems. Examining teachers’ MHL is useful for highlighting areas that require improvement, thus informing training development.

**Whole school approaches**

To address the challenge of the increasing prevalence of mental health difficulties in both CYP and adults, mental health advocates have argued for a population-based approach incorporating promotion, prevention and treatment (Collishaw, Maughan, Natarajan & Pickles, 2010). School approaches to wellbeing have been advocated as fundamental to the effective delivery of mental health interventions, with universal mental health provision increasingly becoming the focus of research (Vostanis, Humphrey, Fitzgerald, Deighton & Wolpert, 2013). To achieve a whole school approach, it has been recommended that senior leadership must embed wellbeing into their provision and culture and allow more time in the curriculum to focus on building wellbeing and resilience (HOC & HOE, 2017). It is hoped that universal interventions will have wide-reaching benefits in addition to improving mental health, including academic achievement and cost reduction (McLaughlin, 2011).

**Mental Health First Aid (MHFA) and MHL**

MHFA is a universal population-based approach founded on evidence suggesting that people experiencing a mental disorder are more likely to seek professional help if someone else suggests it (Cusack, Deane, Wilson & Ciarrochi, 2004). This is especially important for CYP, whose knowledge and experience of mental health are under-developed due to their age, thus requiring the help of parents or supportive adults to recognise problems and support professional help-seeking (Jorm, 2012). Whilst knowledge of common physical ailments and first aid is widespread, the same is not true of mental health issues. Assistance to others by non-mental-health-trained professionals has been termed MHFA (Kitchner & Jorm, 2004).

MHFA training was first developed in Australia in 2001. Programmes are designed to improve the MHL of participants. The term MHL was coined by Anthony Jorm in the 1990’s who defined it as the “knowledge and beliefs about mental disorders, which aid their recognition, management or prevention” (Jorm et al, 1997, p.182). Scholars suggest that MHL consists of seven attributes: recognition of mental disorders, knowledge of how to seek mental health information, knowledge of mental health risk factors, knowledge of aetiology/causes of mental illness, knowledge of self-treatment, knowledge of professional help available and attitudes that promote recognition of appropriate help seeking behaviour (Spiker & Hamer, 2018). There are now a number of different MHL definitions (Bjornsen, Eilertsen, Ringdal, Epnes & Moksnes, 2017; Kutcher et al., 2016). However, Jorm et al.’s (1997) original definition is often considered the gold standard (Spiker & Hamer, 2019) and so has been used for the purpose of this study.

Many MHFA programs now serve a range of professionals and the general public, showing positive outcomes in systematic reviews and meta-analyses (Booth et al, 2017; Brunero, Jeon & Foster, 2012; Hadlaczky, Hokby, Mkrtchian, Carli & Hasserman, 2014; Wei, Hayden, Zygmunt & McGrath, 2013). However Where effect sizes were reported, they were medium for knowledge and low for attitudes and helping behaviours (Hadlaczky, Hokby, Mkrtchian, Carli & Hasserman, 2014) and two of these reviews only reported a narrative description of the results because of the significant differences in the interventions and methodological approaches used in the studies (Booth et al, 2017; Brunero, Jeon & Foster, 2012; Wei, Hayden, Zygmunt & McGrath, 2013).

Despite the UK Government’s proposal to provide MHFA training to all teachers (DOH, 2017), relatively little attention has been paid to evaluating the efficacy and use of programmes in the UK to determine which one’s work. Most of the research has been published by Jorm and his colleagues in Australia and Kutcher and his colleagues in Canada (Wei, McGrath, Hayden & Kutcher, 2015).

In the last year, two systematic reviews have been published evaluating the effectiveness of MHL programmes for teachers, one including both primary and secondary school teachers and the other focusing solely on secondary school teachers (Anderson, Werner-Seidler, King, Gayed & Harvey, 2018; Yamaguchi et al, 2019). In their review of eight studies, Anderson, Werner-Seidler, King, Gayed and Harvey (2018) found improvements in mental health knowledge (d=0.57-3.1) and attitudes (d=0.36-1.18) post intervention but little evidence of improvement in helping behaviour, with most studies not evaluating this. In their review of 16 studies, Yamaguchi et al (2019) were only able to provide a narrative synthesis due to the high risk of bias and clinical/methodological heterogeneity between the studies. Although most studies reported significant improvement of knowledge, attitudes and behaviours (although few measured actual helping behaviour), the authors concluded that effectiveness could not be established due to the low methodological quality of the studies such as inadequate analysis for attrition and lack of control group.

These systematic reviews therefore provide initial supporting evidence for the efficacy and usability of MHL programmes for teachers. However, the methodological problems with the existing literature limit the conclusions that can be drawn in terms of their efficacy. Very few used the gold standard of Randomised Controlled Trial (RCT) designs, with most being pre/post designs. Therefore, improvements could not be fully attributed to the intervention. Yamaguchi et al (2019) recommends delayed treatment or cross-over designs, which allow subjects to eventually receive programmes to collect control group data. Many individual studies report significant missing data and attrition of up to 50%. This rises even higher for studies using a control group (Jorm, Kitcherner, Sawyer & Cvetkovski, 2010; Kutcher et al, 2016). Attrition increases the chance of bias and type-one errors, and limits generalisability. Studies that have had 100% completion rate have comprised purposefully selected samples of teachers with an interest in mental health. This limits their generalisability to whole school approaches, which will always include a proportion of less-engaged teachers (Eustache et al, 2017). Other problems with methodology relate to MHL measurement issues. In their systematic review, Wei, McGrath, Hayden and Kutcher (2016) report a lack of standardisation in the content of the MHL programmes, and in the measures and outcomes across the literature, which makes cross-study comparisons challenging.

Moreover, rigorously analysed qualitative designs to investigate the implementation of MHL are lacking. Recently, the Medical Research Council recommended that qualitative methods should be used to support RCT evaluation of complex interventions (Moore et al., 2015). Findings from implementation science have confirmed that one of the most important factors affecting programme outcomes is the level of implementation that is achieved (Durlak & DuPre, 2008) and that programme outcomes cannot be interpreted fully without also investigating the process of implementation. Qualitative research can shed valuable insight from the perspectives of recipients into how MHL programmes work, as well as on the link between outcomes and the programmes’ implementation and perceived acceptability and feasibility. Mixed-methods designs are valuable for ensuring the continuing development of these programmes.

**Developing MHL programmes**

Despite the initial supporting evidence for the efficacy and usability of MHL programmes for teachers, it appears widely agreed that there continue to be limitations. Attempting to organise sessions within a school setting is challenging as many require a minimum twelve hours of participation (Jorm, Kitchener, Fischer & Cvetkovski). Teachers have raised concerns regarding time commitments, with the number of responsibilities highlighted as a barrier to affecting the implementation of interventions (Langley, Nadeem, Kataoka, Stein & Jaycox, 2010).

Web-based training programmes, because of their cost-effectiveness and accessibility, offer flexible delivery and rapid dissemination of a range of information. Furthermore, their capacity for interactivity and potential for multimedia presentation addresses the challenges highlighted for traditional MHL interventions (Griffiths & Christensen, 2000; Griffiths, Lindenmeyer, Powell, & Thorogood, 2006). The self-determined pace for professionals and the opportunity to review the information as often as desired helpfully overcomes the difficulties of costly one-off, face-to-face interventions (Proudfoot et al, 2011).

Government policies have begun to embrace digital technology and in 2017, the Digital Apps Library (Next Steps on the NHS Five Year Forward View, 2017) was introduced. Applications are collated in one place and are easily accessible, improving integration between technology and NHS resources. These ‘NHS-approved’ apps have an evidence base that has been assessed according to the National Institute for Health and Care Excellence (NICE) guidelines and have led to improvements in mental health. In addition to this, the Government has committed to an investment of £500,000 in digital tools to support mental health to develop a catalogue of high-quality and evidence-based digital platforms (Ham & Murray, 2015).

A recent systematic review of the efficacy of web-based programmes aimed at improving MHL indicated promising findings, although none were in the UK and none targeted teachers (Brijanth, Protheroe, Mahtani & Antoniades, 2016). There was a positive association between increased MHL and reduced symptomology and stigma. No relationship between increased MHL and help-seeking was found. Ten of the fourteen studies used a control group, however limitations highlighted were otherwise consistent with other MHL research, including no follow up to test durability, no monitoring of adherence, confounding factors, attrition and poor generalisability due to small samples. The heterogeneity of measures and outcomes meant that a meta-analysis could not be completed, limiting the review’s methodological rigour.

**MindAid**

MindAid is a web-based app that aims to be a self-directed MHFA training tool to improve the MHL of secondary school teachers. It was developed by utilising technology to tackle the deficit in mental health resources and training available to teachers and follows recommendations by the recent ‘Mental health and behaviour in schools’ policy, which requires staff to be aware of some common symptoms of mental health problems, what is and isn’t a cause for concern and what to do if there are signs of a developing problem (DOE, 2018). The app has four features: LISTEN, QUESTION, LEARN and REFER (see Appendix X) and uses evidence-based information and resources to provide an ongoing interactive training tool. It is designed to be accessible on multiple devices, so that it can be used easily across the school environment, and is time efficient, providing easy-to-digest information that is focused on early intervention. Teachers can use MindAid during consultations with CYP about their mental health or for their own private study.

In 2016, a pilot study of MindAid was completed to collect data on teachers’ MHL levels and to evaluate the efficacy and usability of the app as a resource for teachers. Qualitative data collected through focus groups involving nine teachers, thematically analysed, drew out useful information on the strengths and weaknesses of MindAid, as well as suggestions on how to develop it as a more acceptable and usable platform for teachers. These were then put to MindAid for consideration.

This study will be the first that evaluates the efficacy of a digital MHL intervention that is specifically designed for secondary school teachers. Its cluster-controlled, mixed-methods design will address the methodological limitations of the existing literature to provide more robust conclusions on the efficacy of MHL interventions in the UK. The qualitative design aims to identify any factors related to the usability of MindAid as a resource and its implementation within the school setting that impact its outcomes, identifying important areas for its development and dissemination in schools in future.

**Research Questions**

1. What are baseline levels of UK teacher MHL?
2. Will there be a greater increase in teachers MHL who used MindAid compared to a control group who did not use MindAid?
3. What is the perceived usability and feasibility of MindAid?

## 

## Method

**Study sample**

Eligible participants were secondary school teaching staff (i.e. years 7-13, ages 11-18) at schools willing to participate. The schools were recruited through opportunistic sampling. Twenty-three schools in the areas of London and Warwickshire were contacted by email (Appendix E) and invited to take part in the project (see figure three for full details). Schools were identified through a research network data-base, the external supervisor and the researchers contacts. School leaders that expressed an interest in the project, had a phone-call and in school demonstration of MindAid from the researcher. Eight schools (34%) expressed an interest, six schools (26%) agreed to take part following the demonstration. Schools were allocated into two groups (intervention and control group). Five schools were initially placed into the intervention group and one into the control group. Following the initial training and pre-trial questionnaires, one school said they did not have capacity to continue with MindAid and so requested to be moved to the control group. One of the initial intervention groups asked for a group of teachers to receive the training at a later date and so this school also had a control group. In total, 145 teaching staff took part in the trial. Individual school staff within each of the six schools were either selected by the school or participated on a voluntary basis. Demographic characteristics of all participants recruited are presented in Table 1.

Figure 3: Participant Consortium diagram

A close up of text on a white background

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| Table 1. Demographic characteristics of each group | | | |
| Characteristics | Intervention group *n = 80* | Control group *n = 65* |
| Gender *n (%)*  Male  Female  Prefer not to say | 31 (38.8)  46 (57.5)  2 (2.5) | 24 (36.9)  41 (63.1)  0 |
| Age  Mean (SD) | 38 (11.2) | 35.8 (9.3) |
| Ethnicity *n* (%)  Caucasian British Caucasian Irish  Caucasian Other  White and Black Caribbean  White and Asian  Other mixed group  Asian Indian  Asian Pakistan  Asian Bangladeshi  Other Asian  Black African  Black Caribbean  Other Black  Other not mentioned | 38 (47.5)  9 (11.3)  11 (13.8)  1 (1.3)  2 (2.5)  1 (1.3)  1 (1.3)  1 (1.3)  4 (5.0)  2 (2.5)  5 (6.3)  2 (2.5)  2 (2.5)  2 (2.5) | 44 (67.7)  2 (3.1)  1 (1.5)  3 (4.6)  1 (1.5)  5 (7.7)  2 (3.1)  1 (1.5)  1 (1.5)  2 (3.1)  3 (4.6) |
| Years of teaching experience  Mean (SD) | 11.4 (9.2) | 9.5 (7.4) |
| Role *n* (%)  Non-teaching staff  Teaching assistant  Teacher  Head of department  Head of year  Pastoral  SEN  Assistant Principal  Deputy head | 1 (1.3)  8 (10)  25 (31.3)  17 (21.3)  13 (16.3)  4 (5)  3 (3.8)  6 (7.5)  1 (1.3) | 0  0  31 (47.7)  21 (32.3)  9 (13.8)  1 (1.5)  0  3 (4.6)  0 |
| Prior mental health training *n (%)*  Yes  No | 13 (16.3)  66 (82.5) | 10 (15.4)  55 (84.6) |

**Design**

In order to evaluate the impact, feasibility and usability of MindAid on teacher’s MHL, a longitudinal mixed-methods pre/post cluster controlled design was used, clusters being schools. A cluster design was used because it was not feasible to assign individual teachers who were working in the same school to different groups because (1) there may have been contamination of information provided across groups within the same school, and (2) schools may have responded to the training with changes in policy or procedures, which would affect all teachers. The design did not include randomisation of participants. Instead schools were given the option of whether they would like to participate as the intervention group, so as to increase likelihood of engagement and retention. This was in response to the low retention rate in the previous pilot study and other similar research in the UK (Kidger et al, 2016). MHL was measured immediately prior to receiving training on MindAid and again following a three-month period of using it.

**The intervention**

The intervention is a web-based application called MindAid (See Appendix I). MindAid acts as an ongoing self-directed MHFA learning tool, which can be accessed on any digital device. MindAid aims to cover all components of MHL based on Jorm’s (1997) definition. MindAid adhered with Guidelines for reporting internet research (Proudfoot et al, 2011). Please see appendix J for full details.

**Outcome Measures**

**Quantitative**

MHL was examined using four written scale-based questionnaires. It is important to evaluate MHL from multiple perspectives. Questionnaires were administered through the online survey platform ‘Qualtrics’. Participants were given the option to complete hard copies of the questionnaires, if they preferred.

*Demographic data (Appendix K)*

Demographic information was obtained in a questionnaire format at pre-intervention only, including age, gender, ethnicity, level of education, teaching role, number of years teaching experience, whether they’d had previous specialist training in mental health and whether they’d previously worked with students with a mental health problem.

*The Mental Health Literacy Scale (MHLS) (O’Connor & Casey, 2015) (Appendix L).*

The MHLS is a 35-item measure of MHL assessing all seven attributes of MHL including disorder recognition, knowledge of help seeking information, knowledge of risk factors and causes, knowledge of self-treatment, knowledge of professional treatments available and attitudes towards promoting positive mental health or help-seeking behaviour. It was developed because there was no existing measure that assesses all attributes of MHL in a scale-based format (O’Connor, Casey & Clough, 2014). A number of the items were adapted from Jorm’s vignette interview. The MHLS has a minimum score of 35 and a maximum score of 160, where higher scores indicate greater MHL. The MHLS has been shown to have good internal consistency with a Cronbach’s α of 0.873 and test-retest reliability (r.0.797, p>0.001) (O’Connor & Casey, 2015). Questions nine and ten in the MHLS were modified to be specific to the UK context, where “Australia” was switched with “UK”. In a systematic review, evaluating sixteen mental health knowledge measurement tools, the MHLS achieved positive ratings on internal consistency, reliability, content validity and hypothesis testing (Wei, McGrath, Hayden & Kutcher, 2016). At face validity, the MHLS appears the most appropriate to the target population.

*The Vignettes (Jorm, Wright & Morgan, 2007; Loades & Mastroyannopoulou, 2010) (Appendix M)*

The vignette questionnaire was developed based on four previously validated children and adolescent vignettes presenting four prevalent mental health disorders in school aged CYP: Oppositional defiance disorder (ODD), depression with suicidal thoughts, social anxiety disorder (SAD) and an unspecified eating disorder (ED). The vignettes were chosen based on the availability of previously validated vignettes, to ensure inclusion of externalising and internalising problems and due to existing evidence that these are four commonly seen mental health problems in adolescence (NHS digital, 2018). Following each vignette, teachers were asked a series of questions. Questions included items adapted from previous studies using these vignettes (Hart, Mason, Kelly, Cvetkovski & Jorm, 2016; Loades & Mastroyannopoulou, 2010; Reavley & Jorm, 2011) and questions developed that were specific to the content of MindAid. The questions included from Loades and Mastroyannopolou (2010) had been reviewed by several clinical psychologists and piloted on a sample of trainee Clinical Psychologists, to ensure face and content validity. The rationale for its use in this study was because items could be compared to other literature and ensured that there was a measurement that was in line with the content of MindAid. The vignette questionnaire has a total minimum score of four and a maximum of 108. Each individual vignette had a minimum score of one and a maximum score of twenty-seven. Higher scores indicate higher levels of MHL. The overall questionnaire was not tested for internal reliability or test-retest reliability, which is a limitation of this measure.

* Problem Recognition and identification (Loades & Mastroyannopoulou, 2010; Reavley & Jorm, 2011). Teachers were asked closed ended question of whether they thought they had a mental health problem, scored yes/no/don’t know. For all four vignettes the correct response was ‘yes’. Teachers were then asked an open-ended question of what they thought was wrong with the person. The labels given to the depression and SAD vignette had been previously validated against the diagnoses of mental health professionals (Wright & Jorm, 2009). Accurately labelling a vignette has been found to predict preferring sources of help that have been recommended by mental health professionals (Wright, Jorm & Mackinnon, 2012) and with better quality MHFA responses (Yap, Reavley & Jorm, 2015). Responses which accurately identified the disorder were scored as correct.
* Symptom recognition (developed by the researcher). The symptoms were based on the DSM-V definition for each disorder (DSM-V) included in the content of MindAid. Teachers were asked to identify five symptoms from the vignette, which indicated they had the particular disorder. Each correct symptom identified received one point.
* Risk factors and causes (developed by the researcher): causes were based on evidence-based research (Ghosh, Ray & Basu, 2017; Hudson & Rapee, 2000; Son & Kirchner, 2000; Striegel-Moore & Bulik, 2007). Teachers were asked to name three potential risk factors/causes of the disorder. Each correct risk factor identified received one point.
* Beliefs about help were assessed by asking participants to rate sources of help as helpful to harmful on a seven-point likert scale, based on the outcome measure used in a study evaluating a MHFA programme (Hart, Mason, Kelly, Cvetkovski & Jorm, 2016). Potential sources of help included mental health professional, school, GP, spiritual healer, naturopath, GP or ‘dealing with problems on their own’ and are based on a study of young people’s recognition of mental disorders and beliefs about treatment and outcome (Reavley & Jorm, 2011). Teachers received a score for rating a mental health professional, school professional, GP or social worker as either ‘somewhat helpful’ or ‘helpful’ or ‘very helpful’ and so could receive a minimum score of zero or a maximum score of four for this item.
* Knowledge about professional help options (developed by the researcher): Approaches were based on the evidence-based information included in MindAid using the same scoring format as beliefs about help.
* Mental Health First Aid Intentions and Behaviours.
* *Helping efficacy* was assessed by asking how confident (five-point likert Scale) teachers felt in helping the person in the vignette. A score of one indicated ‘not at all confident’ and a score of five indicated ‘extremely confident’.
* *Mental Health First Aid intentions* (developed by the researcher)was based on the format of questions in Hart, Mason, Kelly, Cvetkovski and Jorm’s (2016) study of teen MHFA but the items were adapted to be relevant to teachers and what was recommended as first aid actions within MindAid. Responses were scored on a prescribed to proscribed basis. Prescribed answers, which were recommended by MindAid as first aid actions scored three; responses which included a mixture of prescribed and general techniques (recommended by the literature as a helpful first aid response but not recommended for that particular disorder) scored two points. Proscribed item scored a zero.

*The Mental Health Knowledge Schedule (MAKS) (Evans-Lacko et al, 2010) (Appendix N).*

The MAKS is a standardized outcome measure chosen to assess stigma related to mental health knowledge. It comprises six stigma-related mental health knowledge areas: help seeking, recognition, support, employment, treatment, and recovery, and six items that inquire about knowledge of mental illness conditions. Response options reflect the conclusion of the consultation with experts and lay people. MAKS items are scored on an ordinal scale (one to five). Items in which the respondent strongly agrees with a correct statement have a value of five points, while one point reflects a response in which the respondent strongly disagrees with a correct statement. “Don’t know” is coded as neutral (that is, three). Items six, eight, and twelve are reverse coded to reflect the direction of the correct response. Items one to six are used to determine the total score. The MAKS has a minimum score of six and a maximum score of thirty, where higher scores indicate higher levels of knowledge. The MAKS has demonstrated moderate to substantial internal reliability (Cronbach alpha = 0.65) and test-retest reliability (Kappa = 0.71).

*The Reported and Intended Behaviour Scale (RIBS) (Evans-Lack et al, 2011) (Appendix O).*

The RIBS is an eight-item outcome measure chosen to measure behaviour change. The first four items of the RIBS are designed to assess the prevalence of behaviour in four contexts: (1) living with, (2) working with, (3) living nearby and (4) continuing a relationship with someone with a mental health problem. Items five to eight ask about intended behaviour within the same context and are used to calculate the total score. Items in which the respondent strongly agrees with engaging in the stated behaviour, have a value of five while individuals who strongly disagree that they could engage in the stated behaviour, receive one point. The total score for each participant is calculated by adding together the response values for items five to eight to be used as a proxy for stigma. Don’t know is coded as neutral (i.e. three). The RIBS has a minimum score of four and a maximum score of twenty, where higher scores indicate lower levels of stigma. The RIBS has demonstrated moderate to substantial internal reliability (Cronbach’s alpha=0.85) and test-retest reliability (Kappa=0.75). It is recommended that the RIBS is used as a multifaceted assessment due to the risk of social desirability (Evans et al, 2011).

*Participant feedback about the content, feasibility and utility of MindAid (Appendix P).*

Actual helping behaviour, usage, perceived feasibility, usability and impact of MindAid were assessed at the end of the three-month trial with a seven-point likert-scale, twelve item questionnaires. Four items asked teachers how many children they had used MindAid with reference to over the trial period. Six items asked about its feasibility and usage through a statement and then asking teachers to rate how much they agreed with the statement, from strongly agree to strongly disagree.

**Qualitative assessments of usability and feasibility**

*Telephone interviews (Appendix Q).*

Following the trial period, a 30-40 minute telephone interview was completed with a convenience sub-sample of teacher study participants (n=12) to gather more in depth feedback on their experience of using MindAid with questions developed to explore their perception of its feasibility, usability. Four interviews were completed with MindAid champions with specific questions around implementation. MindAid Interviews were facilitated by the lead investigator and a research assistant and were audio recorded. Interviews were transcribed.

**Procedure (Appendix S)**

Once schools were recruited, allocated into the two groups and the participating teachers had been identified, teachers were sent an informal invitation sheet, which provided basic information on the study (Appendix F) Once the training had been scheduled, the participant information sheet (Appendix G) was sent out a few days for teachers to read, prior to the training. All teachers received the same standardised training focusing on how to use MindAid before trialling MindAid for three months. The training was scheduled as one and a half hours which included time to complete the consent form (Appendix H) and online base-line questionnaires. Hard copies of questionnaires were provided on request. The training presentation included: the details of the trial and their participation, the context around mental health problems in CYP, training on how to use MindAid and then feedback and discussion on how as a school they would implement MindAid. Training was completed by the same researcher. Training was delivered at different times within the school year, dependent on the school’s preference. At the training day, a MindAid champion was allocated for each school, based on recommendations by Kidger et al (2016). The champion’s role was to drive MindAid forward within the school and to be a point of contact for teachers.

Pre-intervention (time one [T1]) assessment occurred for both groups at base-line when they consented into the study. However, only the intervention group received the training at T1. The time period following baseline assessment was the same for both groups (eight to twelve weeks). Immediately following completion of time 2 (T2) measures, the intervention group completed an additional feedback questionnaire.

Once participants had received the training presentation, teachers used MindAid as they wished. Standardised bi-weekly emails were sent over the course of the trial period, to serve as reminders and to draw participants attention to the four main features of MindAid. The researcher offered ongoing flexible support to all schools, which was either by email, phone or coming into meetings. At the end of the trial period, schools were asked to set up another session to complete the T2 messures and then have an informal feedback session to discuss how the school would continue to implement MindAid now that the trial was over and to trouble shoot any problems. Where a session could not be scheduled due to capacity within the school, an online link to the T2 measures was sent via email to teachers to complete. Following participants completion of the T2 measures, they were emailed with a MindAid certificate to be used towards their CPD and were asked if they would be willing to complete a telephone interview. The training was conducted, and data obtained between May 2018 and March 2019.

**Ethics**

The study procedures were approved by the Research Ethics Committee Royal Holloway University as self-certified (see Appendix D).

*MindAid*

MindAid does not record any identifiable information of users and so there are no concerns surrounding confidentiality. No data is recorded from completing the question feature. Users are required to tick that they have gained consent from the young person to use the questionnaire with them and that they are over eight years old. With guidance from the authors of the Me and My Feelings Questionnaire (MMFQ) in the question feature, schools were requested to contact parents to inform them of MindAid’s introduction to the school and the opportunity to opt out of teachers using MindAid with their child. Teachers were required to ask for the young person’s consent before going through the MMFQ with them.

*Procedure*

Schools were always advised to comply with their local information governance and safeguarding policies and procedures when considering how MindAid would be used within their schools. This was always discussed at the training day to ensure a shared understanding. To assure anonymity, participants were provided with an ID number to link T1 and T2 questionnaires. Identity was only revealed to the researcher when there was a query or problem with the questionnaires. Questionnaires were completed online and so stored on a secure password protected system. Participants were only contacted by email if they provided their email or had consented to being emailed through the MindAid champion. All participants were provided with the training whether in the control or intervention group.

*Adverse events*

There were no adverse events reported during the trial.

**Data analysis**

*Statistical analysis*

Descriptive statistics, means, frequencies and percentages were used to examine the distributions of teacher’s demographic characteristics and the whole sample baseline MHL scores. A repeated-measures mixed analysis of variance (ANOVA) was used to analyse continuous measures with the two groups (T1 and T2). This was for the MHLS, MAKS and Vignette Questionnaires, which all met the assumptions for a parametric test. A Kruskall Wallis Test was used for the RIBS, which violated the parametric assumption of normality. The principal interest was in the group x time interaction effect. However in the event of this being non-significant, post-hoc paired sample t-tests were used to assess change in T1 and T2 scores for the intervention and control group, to allow comparisons with un-controlled studies in the literature which only used t-tests (Kutcher et al, 2016; Kutcher et al, 2016; Wei & Kutcher, 2014). For the RIBS, the Wilcoxon test was used.

*Qualitative analysis*

The telephone interviews were analysed using Braun and Clarke’s (2006) thematic analysis by the main researcher and a master’s student. An inductive approach was used where the coding and theme development were directed by the content of the data but with the predefined variables of usability and feasibility in mind. First, the researchers familiarised themselves with the data by reading the transcripts from the telephone interviews. Initial codes and patterns were generated (Appendix V for example coding), which were then grouped together to identify overarching themes. The themes were then reviewed, to ensure no data was missing from the initial coding. The data that was not coded, included segments that were unclear.

## Results

**Missing data**

Data was missing at time points, due to participants not completing the T2 measures. There were no individual missing data values within completed measures. Multiple Imputation (MI) method (Rubin, 2004) was used to manage missing data to allow for an ITT approach for primary analysis. This is because the missing data included the two categories of ‘missing at random’ and ‘missing not at random’. The demographic of participants may have contributed to the missing data. However, it is most likely that the missing data was due to un-observed data such as whether participants used MindAid. MI was favoured over other methods as it can use information from partially observed cases to better predict imputations in analysis of datasets with several follow-ups (Bell & Fairclough, 2014). MI can be used as a method for large amounts of missing data, between 10-80% as long as the appropriate number of imputations are used (Schafer & Graham, 2002). Schafer and Olsen (1998) recommend three to five imputations and so five imputations were used. Imputed missing scores were conducted for the intervention group and control group separately, which produces unbiased results when there is a possible interaction effect involving the two groups, and has been shown to be more robust than conducting MI for an overall sample in controlled trials (Sullivan, White, Salter, Ryan, & Lee, 2018). In SPSS the random number generator function was used to set the random seed; Mersenne Twister was selected, and the starting point was set at the default fixed value. Maximum case draws were set to 100 and maximum parameter draws set to 50. The statistical analysis results are reported using pooled statistics from the five MI datasets. For the repeated ANOVA and Kruskall Wallis test, an average of the five imputations was determined. Statistical analyses of the completed cases sample were also completed to provide a comparison to the MI data sets.

**Outliers**

Frequencies and boxplots of all variables were examined to identify any extreme outliers, defined as values that were more than three standard deviations away from the variable mean for each group (Field, 2005). There were two outliers identified: one for the Total Vignettes at T1 and one for the MHLS at T2. However, neither of these exceeded three standard deviations away from the variable mean and so were kept in the data.

**Distribution**

The z-scores were calculated and examined for each variable to ascertain any skewness and kurtosis. A distribution was considered normal if a z-score was less than 2.58 and considered slightly skewed or kurtoses but still acceptable for parametric tests if less than 3.29. The RIBS at Time 1 was negatively skewed (Z-score = -4.62). All other variables were found to have acceptable levels of skew and kurtosis. It was therefore agreed that all variables met the assumptions for using parametric statistical analysis except for the RIBS.

**Socio-demographic information of sample**

Differences between the intervention and control group for age, gender, number of years teaching experience and previous mental health training were examined due to their risk of being potential confounding factors. Independent t-tests revealed that there were no significant differences in age or number of years teaching experience between the intervention and the control group. Chi squared tests revealed the same for gender and previous mental health training.

The results are reported under three headings relating to the three research questions.

**Research question 1: What are baseline levels of teacher MHL?**

**MHLS, RIBS & MAKS and Vignette Total Scores**

For all measures, higher scores indicate higher levels of MHL. Teachers baseline mean score on the primary measure, the MHLS was 129.43, (SD = 12.01). In terms of the vignette questionnaires, teachers overall total vignette mean score was 62.37 (SD = 9.31)*.* With regard to the individual vignettes, teachers scored the highest for the Depression vignette (M = 18.0, SD = 2.9) and the lowest for the ODD vignette (M = 13.2, SD = 2.7).

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| --- | --- | --- | --- | --- |
| Table 2: Means (SD’s) for base-line scores for all four outcome measures | | | | |
| Outcome measure | *n* | missing | Mean | SD |
| MHLS | 144 | 1 | 129.4 | 12.0 |
| MAKS | 139 | 6 | 24.3 | 3.0 |
| RIBS | 141 | 5 | 17.0 | 3.2 |
| Vignette Total | 145 | 0 | 62.4 | 9.3 |
| ODD vignette Total | 145 | 0 | 13.2 | 2.7 |
| SAD Vignette | 145 | 0 | 14.2 | 3.2 |
| Depression Vignette | 145 | 0 | 18.0 | 2.9 |
| ED Vignette | 145 | 0 | 14.9 | 3.8 |

**Vignette questionnaire items**

The vignette measures provide an indication of MHL for six of the seven attributes using Jorm’s (1997) definition. Table 3 provides baseline frequencies and percentages for the vignette questionnaire items for each vignette.

*Vignettes: Recognition and Identification*

Teachers were the most accurate in recognising the child presented in the depression vignette as having a mental health problem (93%), followed by the ED vignette (79%) and SAD vignette (66%) and the least accurate in the ODD vignette (52%). This followed the same pattern for accurate identification of the mental health problem

*Vignettes: Confidence to help*

Teachers were the most likely to select ‘A little bit confident’ or ‘moderately confident’ and the least likely to select extremely confident across the presentations.

*Symptom and risk factor identification*

Out of a possible five symptoms teachers identified the most symptoms for the depression vignette (M = 3.11, SD = 1.49) and the least for SAD (M = 1.38, SD = 1.34). Out of a possible three symptoms teachers identified a mean of less than one across the four vignettes.

*Helping actions*

For this item, teachers were presented with a number of different helping options that they could choose to help the young person, categorised into ‘prescribed’, ‘general’ and ‘proscribed’. For SAD, 97% of teachers chose prescribed items, 57% for ODD, 46% for depression and 53% for ED. The majority of teachers did not choose proscribed items for ODD (0%), Depression (1%) and SAD (3%). More teachers chose proscribed items for the ED vignette (21%) which was mostly the item “tell Simone to manage her diet better”.

*Beliefs about helping professionals*

There were consistently high ratings for schools and mental health professionals as helpful across the vignettes, (90-100%). Teachers were less likely to rate GP’s as helpful particularly for ODD and SAD (81% and 78%). Teachers were the least likely to rate social workers as helpful (40-55%) apart from for ODD for which 76% rated a social worker as helpful. A mental health professional was selected as the most beneficial professional by 69% of the sample for depression, 59% for ODD, 41% for ED and 40% for SAD.

*Beliefs about evidence-based approaches*

For ODD between 80-98% of teachers rated the evidence-based approaches as helpful (behavioural support, CBT, family therapy and parent training). For depression between 70-95% of teachers rated the evidence-based approaches as helpful, 94% for exercise, 82% for anti-depressants, 77% family therapy and 71% CBT. For SAD, the percentages were more variable with 88% of teachers rating relaxation as helpful, 71% for CBT, 56% family therapy and 47% medication. There was also variability for the ED vignette where 94% of teachers reported psycho-education as helpful, 83% a specialist ED service, 74% CBT and 63% family therapy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 3: Baseline frequencies and percentages for vignette questionnaire items | | | | |
| Vignette Questionnaire Item | Presentation | | | |
| ODD | Depression | SAD | ED |
| Recognition accuracy n (%) | 76 (52.4) | 135 (93.1) | 96 (66.2) | 114 (78.6) |
| Identification accuracy n (%) | 6 (4.1) | 130 (89.7) | 21 (14.6) | 85 (58.6) |
| Confidence to help n (%)  Not at all confident  A little bit confident  Moderately confident  Quite a bit confident  Extremely confident | 26 (17.9)  52 (35.9)  54 (37.2)  10 (6.9)  2 (1.4) | 27 (19.6)  41 (28.3)  46 (31.7)  25 (17.2)  5 (3.4) | 18 (12.4)  47 (32.4)  54 (37.2)  21 (14.5)  4 (2.8) | 45 (31.0)  47 (32.4)  38 (26.2)  13 (9.0)  1 (0.7) |
| Symptoms identified  Mean (SD) | 1.5 (1.49) | 3.11 (1.39) | 1.38 (1.34) | 2.3 (1.50) |
| Risk factors identified  Mean (SD) | 0.62 (0.76) | 0.7 (0.78) | 0.41 (1.34) | 0.50 (0.66) |
| Helping actions n (%)  Prescribed  General  Proscribed | 82 (56.6)  63 (56.6)  0 | 67 (46.2)  76 (52.4)  2 (1.4) | 140 (96.6)  0 (0)  4 (2.8) | 77 (53.1)  38 (26.2)  30 (20.7) |
| Belief that professionals are helpful n (%)  GP  Mental health professional  Social worker  School | 118 (81.4)  140 (96.6)  110 (75.9)  133 (91.7) | 138 (95.2)  140 (96.6)  79 (54.5)  140 (96.6) | 109 (75.2)  129 (89.0)  62 (42.8)  138 (99.3) | 140 (96.6)  136 (93.8)  60 (41.4)  136 (93.8) |
| Mental health professional most beneficial n (%) | 85 (58.2) | 100 (68.5) | 58 (40.0) | 59 (40.7) |
| Knowledge of approaches n (%)  CBT  Family therapy  Medication  Beh. support  Parent training  Exercise  Relaxation  Psycho-education  Specialist ED service | 117 (80.7)  140 (19.6)  141 (97.2)  128 (88.3) | 103 (71)  111 (76.6)  119 (82.1)  136 (93.8) | 102 (70.3)  80 (55.2)  67 (46.2)  (126 (86.9) | 107 (73.8)  92 (63.4)  81 (55.9)  121 (83.4) |

**Research question 2: Will there be a greater increase in mental health literacy scores in teachers who used MindAid than a control group who did not use MindAid?**

Repeated-measures ANOVA’s using multiple imputation scores were carried out to compare the two groups for the MHLS, Vignettes and MAKS across the two time points. A Kruskal Wallis Test using multiple imputation scores was carried out for the RIBS due to it violating the parametric assumption of normality (See Table 5). There were no significant differences between the intervention and control group from pre to post data collection on the primary outcome measure, the MHLS (F(1) = 2.978, p = 0.234), the RIBS (X2(1) = .515, p = .516), or the MAKS (F(1) = 0.74), p = 0.444). For the vignette measure, there was a significant difference between the intervention and control group across the two time points (F(1) = 12.057, p < -.001).

|  |  |  |  |
| --- | --- | --- | --- |
| Table 4. Repeated-measures ANOVA and Kruskal Wallis Tests results for group comparison across T1 and T2 | | | |
| Outcome measure | F/Chi Square | Df | *p* |
| MHLS | 2.978 | 1 | 0.234 |
| Vignette | 12.057 | 1 | 0.001\*\*\* |
| RIBS | **.515** | **1** | **.516** |
| MAKS | 0.74 | 1 | 0.444 |
| *Note. \*\*\*p < 0.001*  ***Bold: Kruskall Wallis test*** | |  |  |

Post-hoc paired t-tests were carried out to compare means at the two time points on each outcome measure for both the intervention and control group to determine where any significant differences lay (Table 5 and 6). For the MHLS, the intervention group showed an increase in scores on the MHLS between T1 (M = 128.75, SD = 12.092) and T2 (130.432, SD = 13.538), however this was not significant (t(5) = -3.74, p = .723). The control group showed a significant increase on the MHLS (t(164) = -2.427, p < 0.016). The vignette questionnaire was the only measure in the intervention group to show a significant increase in scores between T1 (M = 61.688, SD = 9.336) and T2 (M= 65.136, SD = 6.233) (t(5) = -3.232, p < 0.001). However the increase was greater for the control group between T1 (M = 63.422, SD = 9.215) and T2 (M = 70.648, SD = 6.234) with a stronger significance level (t(428) = -6.177), p < 0.000). There were no significant differences between the two time points for the RIBS and the MAKS for either group.

An analysis of the completed cases was also completed. The results were mostly similar to the multiple imputation (see appendix S for full results tables). The only difference was that in the completed cases analysis, paired t-tests indicated no significant findings for the MHLS for the control group (t(24) = 0.136, p = 0.136) and no significant findings for the vignette questionnaires for the intervention group (t(29) = - 2.021, p = 0.07).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 5. Means (SD’s) for outcome variables at T1 and T2 for each group | | | | |
| Outcome measure | Intervention group | | Control group | |
| Mean | SD | Mean | SD |
| MHLS  Time 1  Time 2 | 128.75  130.433 | 12.092  13.538 | 130.281  135.059 | 11.950  15.150 |
| RIBS  Time 1  Time 2 | 16.808  15.721 | 3.149  3.141 | 17.089  15.419 | 4.286  3.341 |
| MAKS  Time 1  Time 2 | 24.09  23.545 | 3  2.857 | 24.416  23.317 | 3.056  4.034 |
| Vignette  Time 1  Time 2 | 61.688  65.136 | 9.336  6.233 | 63.422  70.648 | 9.215  6.234 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 6. Paired t-test and Wilcoxon significance levels for pre/post intervention comparison | | | | | | |
| Outcome measure | Intervention group | | | Control group | | |
| t/Z | df | *p* | t | df | *P* |
| MHLS | -.374 | 7 | .723 | -2.427 | 164 | .016\* |
| Vignette | -3.232 | 10115 | .001\*\*\* | -6.177 | 428 | 0.000\*\*\* |
| RIBS | **-2.588** | **79** | **.207** | **-2.173** | **64** | **.064** |
| MAKS | .676 | 6 | .523 | 1.172 | 9 | .272 |
| *Note. \*p < 0.05 significance level, \*\*p < 0.01 significance level, \*\*\*p < 0.001 significance leve*  ***Bold****: Wilcoxon test* | | | | | | |

**Research question 3: What is the perceived usability and feasibility of MindAid?**

**Feedback questionnaire (N=43)**

A summary of the main feedback points of interest regarding usage and usability of MindAid are summarised in table 6 (See appendix for T full results). The results indicated low usage of MindAid with 26% of teachers never using MindAid, 52% rarely using MindAid and only 7% one to two times a week. MindAid can be used as a general learning tool and with students specifically. The majority of teachers (69%) did not use MindAid in connection with a student. Teachers did use MindAid with a total of twenty-five students providing some evidence of helping behaviour. The results indicated that 55% of teachers felt that they did not have enough time to use MindAid. However, 83% of teachers would recommend MindAid to another teacher.

|  |  |  |
| --- | --- | --- |
| Table 7. Frequencies and percentages of feedback questionnaire (N=43) | | |
| Questionnaire items | Frequency | Percentage |
| How often did you use MindAid? (usage)  Never  Rarely (less than once a month)  Once a month  1-2 times a week | 11  22  6  3 | 26  52  4  7 |
| How many pupils did you use MindAid in connection with?  0  1  2  3  6  Don’t know | 29  4  6  1  1  1 | 69  10  14  4  4  4 |
| I had enough time to use MindAid  Agree  Neither agree nor disagree  Disagree | 10  9  23 | 24  21  55 |
| I would recommend MindAid to another teacher  Agree  Neither agree nor disagree  Disagree | 35  4  3 | 83  10  7 |

**Google analytics**

Google analytics provided further information on usage. The average length of use per session was three minutes. The most frequently visited feature was ‘LEARN’, followed by ‘QUESTION’, ‘LISTEN’ and the least visited feature was ‘REFER’. The most frequently visited LEARN module was ‘The Worried Child’.

**Thematic analysis**

*Efforts to achieve rigour and reflexivity*

O’Brien et al (2014) recommendations for reporting qualitative research were used to ensure quality. A copy of an interview transcript coding example can be found in Appendix U. A journal was kept throughout the study as a strategy to ensure reflexivity, detailing how the researchers own personal experiences, assumptions and identity influenced their views on the findings, as recommended by Treharne and Riggs (2015). The thematic analysis was completed with a second researcher. This helped to ensure credibility. Interviews were read and transcribed by both researchers. The second researcher completed the initial coding of the transcripts. Jointly, the initial codes were reviewed, over-arching themes identified, and the codes and transcripts were reviewed again. The second researcher was not involved in carrying out the research and so their perspective helped to ensure objectivity in the thematic analysis process.

*Overview of themes*

The thematic analysis explored teachers’ perceptions of the usability and feasibility of MindAid (N=12). There were seven main themes with subthemes under the headings of ‘usability’, ‘feasibility’ and solutions which related to both usability and feasibility. Feasibility refers to factors within the school context and environment rather than MindAid as a resource that impacted on its use by teachers. These are represented in a thematic map (figure 2) and discussed below. the letter ‘n’ refers to the number of participants who mentioned the theme.

Figure 2: Thematic map

A picture containing text, map

Description automatically generated

**Usability**

1. **Strengths**

**1.1** **Easily accessible from any platform at any time (n=11)**

MindAid was consistently described as accessible, appearing to be its most dominant strength. Its accessibility was attributed to it being a digital platform, accessible from any device at any time. It’s ease of access and simple interface was perceived as making it efficient to use.

*“I think you can just dip into it and use whatever is appropriate for an individual child” (head of SEN)*

*“The ease that you have always got your mobile phone in your pocket and everyone can have access to it” (teacher)*

**1.2 Simple and user-friendly (n=11)**

MindAid’s format and layout was perceived as making it easy to navigate even for those who were not familiar with technology. Its simplicity reduced the chance of it seeming overwhelming to teachers.

*“It’s really clearly set out and even people who aren’t familiar with technology as much as I am should have no problem getting around it” (teacher)*

**1.3 Informative relevant and reliable source of information (n=7)**

The depth of information was viewed as appropriate. The information on particular presentations felt relevant to the types of difficulties seen in students. MindAid was frequently described as a useful starting point, particularly for teachers and schools with little existing knowledge or previous training on mental health difficulties. It was noted that for teachers already in Pastoral or SEN roles, the information sometimes felt too basic. However, this was not consistent across schools. MindAid was frequently referred to as a reliable and trusted source of information, which enabled it to be recommended to parents.

*“It is a useful starting point at least for raising awareness and staff confidence in dealing with it really” (SEN teacher)*

*“It was relevant to the types and kinds of mental health difficulties that we are seeing in schools you know and that we’re dealing with on a daily basis” (Assistant Principal).*

**1.4 Used within the curriculum (n=4)**

Teachers from three out of the four schools interviewed used MindAid not just as a training tool for teachers but within the whole school as part of the curriculum (in PSHE) or in assembly as a means of promoting and educating mental health with the students.

*"it's really easy and it's quite good to display in the classroom" (1001, teacher)*

**1.5 Structure provided reassurance (n=5)**

Teachers commented that they appreciated the structure and prompts provided by the LISTEN feature.

*“Quite useful to have a, have it formalised a bit as a set of questions you know… I find that sometimes if you’re doing something quite unstructured then you haven’t got anything to refer to… You can go off at tangents really or the student can go off at a tangent you know and I think I er set of questions and that are quite useful for bringing it back to the actual reason you were talking in the first place you know” (SEN & champion)*

1. **Challenges**

**2.1 Computer vs Human (n=8)**

There were conflicting views on whether MindAid was appropriate to use with a pupil present. The question feature was particularly discussed in relation to this. For some teachers, the use of MindAid as a reference point when having a conversation with a student was useful because it put students at ease or helped them if they were struggling to communicate their experience. However, for other teachers, it felt artificial and uncomfortable because they were concerned that it lost the human interaction or that it would reduce their ability to actively listen and connect to what the student was bringing. In some cases, this limited teacher’s use of the MindAid.

*“You have to be quite careful that you don’t sound sort of erm a bit like an answer phone do you know what I mean? Like you’re a computer program asking them the questions I think you’ve got to try and reframe some of those questions as if you’d just thought of it [laughs] yourself rather..” (head of SEN)*

*“I know if they’re feeling really uncomfortable about speaking out loud about it, If I can turn on the listen app and allow them to just to sit down and use it on their own and they try to encourage them to talk about what they found since as they’ve gone through answering those questions alone” (teacher)*

**2.2 Relationship building (n=5)**

Having an existing relationship or building a relationship and trust with a student was repeatedly highlighted as key to enabling first and ongoing conversations and support for mental health difficulties. Not having an existing relationship with a student was cited as a barrier to using MindAid.

*“uncomfortable asking them kind of personal questions…then its uncomfortable kind of doing it through a computer kind of thing online” (teacher)*

**Feasibility**

1. **“I didn’t have time”**

A lack of time to use MindAid was cited consistently across the interviews. This theme draws together an understanding of the different reason’s teachers believed that they did not have time to use MindAid. The subthemes were inter-connected but have been highlighted as distinct themes because they each felt important in their own right. Competing demands, increases in expectation from both the government and the school combined with a lack of training and government cutbacks led teachers to feel overburdened and overwhelmed, which in turn contributed to feelings of hopelessness and being de-skilled in supporting students. There was an overall sense of disempowerment by the changing context surrounding their role, which seemed to disengage teachers from using MindAid.

**1.1 Overburdened and overwhelmed (n=9)**

Teachers reported that the level of pressure such as workload placed on them and competing responsibilities meant that they often felt overwhelmed and unable to invest the time in engaging with using MindAid. Teachers frequently highlighted the wide-ranging roles they felt expected to be to support students. In this context, MindAid was viewed as an additional burden and another pressure to be competent in.

*“Realistically knowing what it’s like in school and knowing what our workload is increasing and increasing I know that a lot of our staff will find it a little overwhelming that’s not what MindAid does that’s what our workload does” (teacher and Champion)*

*“The expectations of a teacher are vast and immense – you’re meant to be a parent, you’re meant to be a doctor, a teacher, your meant to know your subject…” (teacher)*

*“Quite concerned that I’m now meant to know all of this information in order to be a successful teacher” (teacher)*

**1.2 Feeling Hopeless and de-skilled (n=8)**

Teachers frequently described feeling hopeless. They reported feeling de-skilled to cope with the increasing demands placed on them in terms of an expectation to provide support to students with mental health problems without having training or supervision. This belief was shared across departments and roles.

*“We don’t really know what we’re doing with that and we know that we may be [pause] maybe it makes us feel a bit de-skilled because we don’t have the knowledge” (Head of SEN)*

*“It’s difficult to deal with and makes me feel kind of hopeless” (SEN)*

**1.3 “What if I get it wrong” (n=4)**

Teachers described feeling nervous and fearful of approaching conversations with young people about mental health difficulties because of saying the wrong thing and the consequences of this. Although not directly stated by teachers, this could be attributed to continued stigmatising attitudes towards mental health problems or the current context of increasing accountability placed upon teachers within schools. This seemed to serve as a barrier to using MindAid with a student.

*“So, I think that it is that nervousness of “oh what if I get it wrong” (assistant principal)*

*“I mean I do kind of ask questions it’s kind of hard not to, to dig too deep and to sort of in the situation where you’re talking to these students and the time you have, maybe it’s just along the corridor you know it’s a bit hard to get too, too involved because you know you haven’t really got the time”. (teacher)*

1. **Prioritisation**

A number of teachers felt they didn’t prioritise MindAid because there were other priorities that seemed more pressing in a context of limited time. There were a number of reasons encapsulated by the following subthemes.

**2.1 Mental health is not prioritised or resourced (n=12)**

There seemed to be because of an overall lack of prioritisation of mental health in school systems, demonstrated by teachers consistently reporting a lack of resources for mental health, particularly when compared to physical health and learning difficulties. This was in the form of informational resources and actual support systems in the school for young people such as provision of counsellors and relevant policies.

*“There are always other things that, in all honesty are more pressing that you just never get round to doing, so that’s very much what the job is” (teacher)*

*“We’ve had Ofsted, now we’ve got section 48, we’ve had the challenge partners, but yeah exactly so there hasn’t been much time to put the emphasis on it that we otherwise could have” (teacher and champion)*

*“So, you kind of have that resource with a lot of teaching and learning resources, but you don’t really have that kind of resource for a pastoral sense”. (Deputy head)*

**2.2 MindAid needed to be compulsory facilitated by leadership (n=5)**

Teachers suggested that MindAid needed to be compulsory as opposed to optional for it to be prioritised, for example as part of CPD and inset days. Leadership were identified as key to embedding and driving forward MindAid. Champions were important within this, but leadership support often came above champion roles.

*“At the moment, without literally saying ‘this is going to be part of [laughs] part of your appraisal and your performance’ you know then it’s so easy for these things to not be referred to”. (SEN)*

*“Leadership could have done to make sure it was higher up on people’s agenda” (SEN and champion)*

*“You know there is no reason why it couldn’t happen if you know whoever runs the school believes that it’s important enough” (Teacher)*

1. **Perceived responsibility**

**3.1 “That’s not what I went into teaching for” (n=7)**

Teachers beliefs that mental health is not their role appeared to affect how they perceived their responsibility to support their students, which in turn affected the implementation of MindAid as these beliefs served as a barrier to its use. The way departments are structured appeared to determine pastoral and general teachers’ perceptions of who is responsible for mental health. The hierarchical structures of the school and distinct departments of pastoral and SEN meant that doing something about mental health can be viewed as a chain of command, which deflects responsibility.

*“Most schools are structured so that you are either teaching staff with a teaching responsibility, like a department head kind of thing or you are pastoral staff and your responsibility is mental wellbeing” (Assistant Principal)*

*“I will teach them in a lesson and I will be aware they have a problem and er MindAid helped me understand the problem better but beyond that, my role for pastoral stops there” (Teacher)*

*“Some teachers will say ‘well that’s not what I went into teaching for, I just want to teach my subject… They don’t really see their role as maybe so holistic” (Head of SEN)*

**3.2 SLT beliefs about teacher’s responsibility for mental health (n=4)**

SLT beliefs about teacher’s responsibility for mental health differed. Some of leadership saw it as helping to alleviate pressure from other teachers and valued the whole cohort being trained in mental health problems. Support and encouragement from leadership appeared to incentivise teachers to use MindAid and to see themselves as responsible for their student’s mental health. Other SLT saw mental health as within the responsibility of leadership and not the whole cohort.

*“Sometimes staff who don’t have a pastoral role, almost there are two things, either they feel ill-equipped to deal with pastoral issues or they feel that actually if they do it, they’ll be treading on the toes of the pastoral team.” (Assistant Principal)*

*“My only issue with all these things is you know me and … working in the SEN department or in the pastoral support is that’s our role”. (Head of SEN)*

**Solutions**

1. **Development of MindAid**

**1.1 Development of content (n=6)**

Suggestions were made regarding MindAid’s content: a tiered version to tailor the information for different teaching roles in the school; LEARN modules on the different anxiety disorders; age specific information; more information on specific strategies; relationship building skills.

*“One for classroom teachers, one for form tutors, one for pastoral heads and usually school have a what’s called a safeguarding officer, erm so I would say four tiers even” (teacher)*

*“It refers to children a lot and I was a bit uncertain as to whether that applied to teenagers going into sixth-form, so by children I wasn’t entirely sure what age that expanded to” (teacher)*

*"yeah I think maybe something in there about building a bit of a relationship with them" (SEN).*

**1.2 Development of digital features (n=4)**

Teachers suggested having a wider range of media to present information such as podcasts or videos, a recently searched feature and expanding it to have an online community for schools to share resources.

*“I don’t know even like little podcasts or videos, something like that rather than you know just reading off, or a mixture of medias to engage a bit more – to make it a bit more real” (SEN)*

* 1. **Developments to training (n=4)**

Teachers recommended more in-depth and interactive training at the start and refresher training.

*“Maybe even like a video of someone using MindAid erm with a student or someone that had a mental illness or er.. going through the questions” (Teacher)*

**1.4 Universal to all stakeholders (n=4)**

Teachers suggested that MindAid should be expanded so that it could be accessed by students and parents and to become part of the curriculum e.g. in PSHE.

*‘Would love to see parents and students accessing it” (teacher)*

*"I mean one thing I would say as well if you could make the teachers life easy by making it to the curriculum in any areas of the curriculum then I, the teachers would use it more because it makes our life easier" (SEN and champion)*

1. **Ways to embed in the school**

**2.1 Continuity through ongoing support and supervision (n=6)**

Teachers and leadership appreciated the support in the set up and during the trial period by the researcher (reminder emails and availability for support). Support within the school through demonstrations and consultation was identified to help them to feel more confident to use MindAid and embed it in the school.

*“I think the coming in and going through it and demonstrating it and then and erm helping me make a decision about what we think happened together and then I could have tried it on my own…and I feel that would have given me more confidence”. (SEN).*

**2.3 Inclusion in CPD, Inset and policies (n=4)**

MindAid was recommended to become a compulsory part of teachers CPD or inset days to increase prioritisation.

*“Perhaps MindAid training session could form part of an inset day, you know a couple of times a year, a couple of times a year within a school so that it gives it that kind of erm that profile of importance, but also is erm it’s not left for a teacher to find a bit of time to read you know to read about a mental health difficulty you know at the end of a day whenever...” (teacher)*

## Discussion

**Study aims**

This study addressed three main aims:

1. To establish overall base-line levels of MHL among secondary school teachers.
2. To evaluate the effectiveness of MindAid in improving the MHL of secondary school teachers in comparison to a control group of teachers who did not use MindAid.
3. To explore teachers’ perspectives on the usability of MindAid as a resource and its feasibility in secondary school settings.

These three aims are discussed under subheadings, drawing comparisons with the existing literature.

**Base-line MHL levels of secondary school teachers**

This study, the first large-scale study in the UK to examine overall teacher MHL, used four scale-based questionnaires to measure MHL. The findings suggest that, overall, teachers’ MHL is low in comparison to MH professionals and although they can recognise the existence of a mental health problem and have positive attitudes towards appropriate supporting professionals, they are generally poor at identifying the problem and exhibit low confidence to support the student. These findings of low MHL are in stark contrast to what is being expected of teachers following the publication of recent government policies and reports (DOH, 2015; DOH, 2017).

The MHLS (O’Connor & Casey, 2015) was the primary measure used to provide an overall MHL score. The MHL has been used in other research: examining front-line hospital staff MHL (130.9 (SD=12.7), N=203) (O’Connell & Pote, 2019); and to compare the MHL of a community sample (M=127.38, SD=12.63) with a sample of mental health professionals (M=145.49, SD=7.19) (O’Connor & Casey, 2015). The results of this study found that teachers scored similarly to the public and front-line hospital staff but well below mental health professionals.

The vignette questionnaire included four vignettes of children presenting with clinical level symptoms of ODD, depression with suicidal thoughts, SAD and an unspecified ED and measured six out of the seven attributes of MHL (Loades & Mastroyannopoulou, 2010; Jorm, Wright & Morgan, 2007). Generally, the comparisons with the literature for the individual MHL attributes are conflicting and challenged by the fact that most studies are conducted outside of the UK with significant differences in culture curriculum, measurement tools used and attributes of MHL examined. Teachers low helping efficacy is consistent with other research where teachers report a lack of confidence in providing effective classroom-based support to students presenting with emotional and behavioural challenges (Reinke, Stormont, Herman, Puri & Goel, 2011; Snider, Busch & Arrowood, 2003; Walter, Gouze & Lim, 2006; Westling, 2010). However, teachers appeared to generally have a good understanding of the helpfulness of evidence-based interventions and the relevant professionals, which conflicts with previous research (Gable, Tonelson, Shethm Wilson & Park, 2012; Stormont, Reinke & Herman, 2011). Again, inconsistent with other research, teachers appeared to have knowledge of helpful school-based strategies for responding to both externalising and internalising problems in students (Evans, Weiss & Cullinan, 2012).

There were differences in MHL across the four vignettes. Teachers scored the lowest for ODD, followed by SAD and ED and scored substantially higher overall for depression. This is inconsistent with previous research using depression vignettes, which is conflicting: in one study 16.3% of teachers accurately identified depression (Aluh, Onyeanusi & Obinna, 2018), whereas others indicate mixed findings for recognition, help seeking and beliefs about professional help options for depression (Ozabaci, 2010). The findings are also inconsistent with previous research using the same ODD vignette where 94.7% of teachers recognised the child had a mental health problem. However, the differences may be because ODD is more prevalent in primary-aged children (Loades & Mastroyannopoulou, 2010). Teachers were similarly able to identify helping actions that were prescribed by the evidence base for that particular difficulty or that were seen as generally effective helping options for both ODD and depression. Some findings suggest that help-seeking by teachers tends to be higher for children with behavioural disorders as compared to emotional disorders (Ford, Goodman & Meltzer, 2003), while others have found that teachers are more likely to refer students with internalising problems, such as depression and anxiety (Chang & Sue, 2003; Loades & Mastroyannopoulou, 2010). There is very little in the way of previous MHL research to compare teachers’ scores on the RIBS and MAKS.

**The effectiveness of MindAid in improving MHL**

Generally, there were no significant differences in MHL scores between the intervention and control group across the two time points. Although there was a significant increase on the vignette measure in the intervention group, this was also the case for the control group, which indicated a greater increase in scores between T1 and T2. This finding conflicts with previous systematic reviews evaluating the effectiveness of face-to-face MHL interventions for teachers and digital MHL interventions, which have yielded significant improvements in knowledge and attitudes (Anderson, Werner-Seidler, King, Gayed, Harvey & O’dea, 2018; Brijanth et al, 2016; Yamaguchi et al, 2019). For example, Jorm, Kitchener, Sawyer, Scales and Cvetkovski (2010), who used a vignette measure and a similar control-group cluster design with seven schools in Australia, saw significant increases in knowledge, confidence and positive beliefs about mental health and a significant reduction in stigma. An RCT of a digital MHL application for parents also saw significant increases in knowledge and self-efficacy in comparison to a control group (Deitz, Cook, Billings & Hendrickson, 2008). However, the majority of studies targeting teachers in schools did not use a control group and as this study has shown, there can be changes in the control group, indicating other confounding factors at work.

The null findings in this study may be related to a number of factors. The measures may have been susceptible to practice effects, particularly for the vignette questionnaires, which may have had training effects and become an intervention in itself. This is supported by feedback in the telephone interviews and feedback questionnaires, which referred to the vignettes as promoting helpful thinking and as being a reference point to guide training needs The problem of distinguishing between evaluation and intervention has been highlighted in other research (Audrey, Holiday, Parry-Langdon & Campbell, 2006).

Teachers’ usage of MindAid as reported by the feedback questionnaire and google analytics was low. The percentages reported may be inflated because teachers who completed the post-questionnaire were probably more engaged with MindAid. It is therefore unsurprising that the quantitative findings saw no significant change in MHL scores. Poor engagement and adherence have been highlighted in other research evaluating digital interventions including a systematic review of a digital mental health prevention programme for young people in schools (Clarke, Kuosemenan & Barry, 2015; Griffiths & Christensen, 2007; Mohr Weingardt, Reddy & Schueller, 2017).

**The usability and feasibility of MindAid**

The qualitative findings in this study regarding the usability of MindAid were that teachers largely viewed it as an accessible and simple resource, especially in its digital format, and that it is an informative and relevant reference tool for information regarding mental health problems seen in CYP. This finding is consistent with other research examining the acceptability and usability of digital mental health interventions including self-directed applications, such as Sleepio and SPARX (Coulson et al, 2016; Hidalgo-Mazzei, Young, Vieta & Colom, 2018; Stjernsward & Hansson, 2017).

Teachers signposted two possible areas for the development of MindAid. First, across schools, teachers asked whether MindAid can be used by students and parents. This supports a whole system approach to mental health, where all layers of the system and stakeholders have an understanding of and access to initiatives being deployed (Weare & Nind, 2011). Secondly, teachers identified first conversations with students as being particularly difficult and suggested that guidance about relationship building skills should be included in MindAid. This suggestion is consistent with mental health promotion programmes for teachers, which have focused on building connections and relationships with students, often through experiential learning, and have shown positive findings in qualitative studies (Schwartz, Dinnen, Smith-Milman, Dixon & Flaspohler, 2017). Teachers’ view that they needed further training on MindAid indicates that aspects of its design could be improved, as well-designed applications should be intuitive to the user and not require training.

Factors determining engagement with digital intervention are multifaceted and relate to the user (e.g. demographics, treatment expectations, motivation), the environment (e.g. access to computers, support) and the programme itself (e.g. mode of delivery, appearance, usability) (Ritterband, Thorndike, Cox Kovatchev & Gonder-Frederick, 2009). As MindAid was generally viewed as a usable and helpful resource, the high drop out and low engagement rates are likely to be related to the users and their environment i.e. teachers and how MindAid was implemented.

Teachers’ most common reason for not using MindAid was a “lack of time”. In the feedback questionnaire, 26% of teachers did not use MindAid at all and 55% reported that they didn’t have time to use it. This is a concern as MindAid has a low usage burden. Teachers consistently described feeling over-worked and over-burdened by the increasing workload and expectation placed on them within their role. This increasing expectation, pressure and accountability without an increase in support, training and dedicated time within the school setting led teachers to feel de-skilled and therefore hopeless to support students. Combined, these themes provide a picture of disempowerment felt by teachers that may have prevented them from engaging with MindAid. In a 2017 UK teacher survey of 8,173 teachers, 84% said that the workload was manageable only sometimes or “never”. Over 50% said that recent changes to the curriculum and pupil assessment were a driver of workload and 40% reported a loss of CPD opportunities (NEU, 2018). Other authors have highlighted the current political context of education as encouraging increased scrutiny and criticism of teachers and the impact of perceived accountability on helping behaviour (Benn & Downs, 2015; Cooke, King & Greenwood, 2016). Teachers’ psychological wellbeing and satisfaction with their daily working environment are associated with their actual behaviour. Studies have reported that if teachers’ own mental health needs are neglected, they may be unable or unwilling to consider mental health problems of the young people they teach, and that school satisfaction is a significant predictor of positive attitude towards helping behaviour (Sisask et al, 2014). This could explain the perceived lack of capacity to use MindAid.

Teachers identified that ongoing support and supervision once they began using MindAid would have increased their confidence and engagement with it. They repeatedly reported that MindAid was not prioritised within the school. In their view, this was because mental health was not prioritised in terms of resources, and they drew contrasts with physical health and learning difficulties. The degree to which schools view mental health as relevant to the school context differs and this is consistent with other research (Adelman & Taylor 2002). Some teachers did not perceive themselves as responsible for mental health. Instead, they considered mental health as being within the remit of pastoral teams. Leadership appeared important determine engagement with MindAid. Champions indicated that backing needed to come from higher in the hierarchy. Leadership had differing beliefs on whether all teachers should use MindAid.

It may be incorrect to conclude from evaluation studies that specific programmes do not work when positive outcomes are not found and therefore it is important to consider implementation in these circumstances (Jane-Llopis & Barry, 2005). Theories from implementation science, such as the normalisation process theory, emphasise that for new programmes to be considered worthwhile and to make sense in relation to current practices, work needs to be carried out to facilitate their implementation. This includes getting buy-in and organisational support, and providing staff training (Mair et al., 2012; May & Finch, 2009). Several conceptual frameworks have been developed identifying more than 20 factors affecting implementation that exist at multiple ecological levels (Domitrovich et al, 2008; Durlak & DuPre, 2008; Fixsen, Naoom, Blase, Friedman & Wallace, 2005). These include community-level factors, such as adequate funding and educational policies, characteristics of staff receiving the programme, the organisations’ readiness for a programme, commitment and support of leadership and the quality of professional development. They are therefore consistent with the themes from the thematic analysis. Other implementation frameworks have identified intervention-specific factors that are consistent with the improvements identified by teachers, such as inclusion of parents, teachers or peers, use of multiple intervention modalities and the integration of programme content into the general classroom curriculum (Rones & Hoagwood, 2000).

Many reviews suggest that skills work alone is not enough for optimal impact. Rather, it needs to be embedded in a whole school multi-modal approach, which includes whole school policies and practices promoting positive wellbeing; training and CPD for staff, school culture, ethos and environment; teaching, learning and the curriculum; partnerships with parents, families and the wider school community (Weare & Nind, 2011). This is consistent with Bronfenbrenner’s ecological systems theory, which offers a conceptual tool for guiding interventions within the field of population and public health (Erikkson, Ghazinour & Hammastrom, 2018).

**Strengths**

The main strength of this study is its novelty: it is the first mixed methods-controlled design to evaluate a digital MHL programme for secondary school teachers. The inclusion of a control group helped to distinguish that changes in MHL scores hadn’t been associated with the use of MindAid. The qualitative element helped to reveal crucial information as to why MindAid may not have been effective as a resource.

The outcome measures used have their own strengths. The MHLS is a previously validated questionnaire with strong internal reliability and provides an overall MHL score incorporating all seven attributes of MHL, which other scale-based questionnaires do not (O’Connor & Casey, 2014; O’Connor & Casey, 2015; Wei et al, 2016). The combination of vignette measures and scale-based questionnaires provided a more holistic view of participants’ MHL and overcomes the limitations of vignette measures and scale-based questionnaires. The real-world setting in which this research took place and its consistencies with an agile design, which is an iterative and incremental approach to designing information technologies, is another strength. Authors of frameworks for evaluating e-health resources recommend their development as a cyclical process of design and development in the real world to ensure applications remain relevant to the need of the audience (Apolinario-Hagen, Kemper, Sturmer, 2017; Khoja, Durrani, Scott, Sajawani, Piryani, 2013; Murray et al, 2016; Norman & Skinner, 2006; van Gemert-Pijnen et al, 2011). They recommend mixed-methods designs, which allow evaluation from the perspective of the user about what works (Apolinario-Hagen, Kemper & Sturmer, 2012). The important qualitative feedback on MindAid’s usability and feasibility, which impacted its outcomes, provides invaluable information for further development in an ever-evolving digital field, thus reducing the likelihood of failure when it is fully rolled out. Although schools were able to choose how teachers were recruited, which risks bias, it is representative of a real-world setting where different schools will decide on different uptake methods for an intervention.

**Limitations**

There were several limitations of this study. The first and most significant was teacher retention leading to the missing data at post-trial data collection. It is likely that teachers who did not complete the post-questionnaires had not used MindAid over the course of the trial. It is still important that these teachers’ post-questionnaire scores were included in the analysis to make it representative of the real-world application of MindAid. However, it also raises concerns about the perceived acceptability of MindAid from those whose data is missing. The missing data risked an extensive loss of power and subsequent bias in the findings. Multiple imputation as an approach is widely used for intervention studies of a similar design where there has been a loss of participants, but it cannot guarantee reliable findings (Dziura, Post, Zhao, Fu & Peduzzi, 2013). However, the matched case analysis did yield similar results. The findings of high drop out and low engagement rates indicate a need for implementation research to better understand the needs and preferences of teachers and the factors determining engagement. Due to the non-significant findings, the use of a post-hoc test is a limitation to this study as they are only recommended when there is significance (Field, 2005). However, the inclusion of this test allowed the comparison to the existing literature, which has mostly used t-tests (Kutcher et al, 2015; Kutcher et al, 2016; Wei & Kutcher, 2014).

The non-randomised design is another limitation because it does not rule out systematic bias through baseline differences between groups and confounding factors (Reeves, 2008). Although no significant differences were found in the baseline comparisons, there may be reasons for why schools chose to be in either the intervention or control group such as having existing mental health initiative’s in place, which may have biased engagement with MindAid and its outcomes.

The outcome measures were limited by their social desirability and practice effects which impacted the validity of the findings. Self-report survey data on stigma, such as the RIBS, are inherently prone to social desirability, inaccurate responses, non-response and responder bias (Gove, McCorkel, Fain & Hughes, 1976). Practice and training effects could be what contributed to an increase in scores pre-post, for both the intervention and the control group.

The qualitative analysis could have been strengthened by member checking with the participants who completed the telephone interviews to ensure the results resonated with their experience as recommended by Treharne and Riggs (2014). Another limitation is the lack of follow up. The implementation period of just one term was likely not long enough for teachers to familiarise themselves with MindAid and integrate it into their school routines. This may explain low usage and the non-significant scores.

**Clinical implications**

The development and implementation of MHL programmes is a complex area of work that needs to be approached thoughtfully, to ensure engagement and knowledge uptake. Interventions such as MindAid clearly have a long way to go but the potential implications are invaluable. Adherence and engagement with MindAid were obvious issues that have been highlighted in research examining the feasibility of other self-directed psycho-educational tools in schools (Kuosmanen, Fleming & Barry, 2018; Lillevoll, Vanberg, Griffiths, Waterloo & Eisermann, 2014). Developments, such as its interactivity, could be made to the design features of MindAid to more closely reflect the user journey. Onboarding is a mix of educating users on how to use a service and selling its value and includes features such as guided task completion and tool tips, which would be a useful addition to MindAid (Industrial Distribution, 2016). The findings described above regarding implementation and their links to the existing literature support whole school approaches to mental health as recommended by the Government Green Paper (DOH, 2017). If MindAid was embedded as part of a whole school approach with ongoing supervision and support, this would address many of the issues highlighted.

Given that the degree to which schools prioritised mental health differed, it is important to consider organisational readiness for future initiatives (Adelman & Taylor 2002). Future studies of organisational readiness for a programme’s implementation in schools might provide feedback about readiness to facilitate buy-in prior to a new innovation’s implementation (Arora et al, 2016). Capacity building is an essential part of implementation and would have benefited MindAid, as it would have helped ensure that schools had the appropriate resources in place. Training approaches that attend to contextual factors may have the potential for greater impact (Beidas & Kendall, 2010).

Beyond a whole school approach, the findings highlight the need for a whole systems approach that requires a political change to ensure the adequate allocation of resources for schools to spend on mental health. Only £200,000 has been released for the first wave of teacher MHFA training in response to the government green paper, which equates to training 1,000 teachers out of a workforce of 498,000 teachers in schools in England (DOH, 2017). The narrow-focused international metrics of student attainment have been criticised as the main driver of school performance, which runs the risk that schools will de-emphasise their essential role in social development, marginalise health-related education and therefore potentially undermine mental health (Ameratunga, Clark, & Banati, 2018). Policies relating to testing academic attainment targets need to be commensurate with a whole system approach to education – one that increases teacher wellbeing and prioritises whole student development, including social and emotional development.

The Government's Green paper proposals (DOH, 2017) would suggest an appropriate response to the conclusions of this study. However, the House of Commons (HOB) report called “The Government’s Green Paper on Mental Health: Failing a Generation" points out forcefully that recruitment and retention problems, together with several years of funding cuts, are serious obstacles to increasing the role of teachers in providing mental health support to students (HOC, 2019).  The clear message from teachers in the qualitative findings is that currently, they do not believe they have the capacity to implement programmes such as MindAid. This raises an important question of whether teachers in the current climate are best placed to provide mental health support.

**Future research**

The null findings that were only revealed due to the use of a control group, emphasise the essential use of controlled trials designs in future research evaluating MHL interventions. The low engagement with MindAid and high attrition at post data collection indicates a need for implementation research to better understand how well programmes responds to the specific needs and preferences of teachers and what contributes to engagement or disengagement (Durlak. Weissberg, Dymnicki, Taylor & Schellinger, 2011; van Gemert-Pinjen et al, 2011). Pragmatic trials with process evaluations are an alternative to RCT designs and address the implementation challenges that may have impacted on this study’s outcome. Furthermore, process evaluations examine context and monitor the process of implementation at different time points. Future trials would also benefit from participatory and user-centric design principles involving stakeholders in the evaluation and continuous development of programmes, to increase engagement and ensure modifications are timely and in line with user preference (Norman & Skinner, 2006).

**Conclusion**

This study aimed to determine whether a digital self-directed MHL training tool called MindAid was efficacious in improving the MHL of secondary school teachers as well as whether it was perceived by teachers to be a usable and feasible resource. The intervention was delivered in a digital format in the hope that, if it proved effective, it can be used as a more accessible and cost-effective MHFA intervention for secondary school teachers within the school setting. The study cannot confirm that MindAid is an effective tool in improving the MHL of secondary school teachers because although their MHL levels improved over time for the intervention group, similar improvement was seen in the control group. The null findings are likely to be due to teacher’s low usage of MindAid. The qualitative findings indicated that MindAid was viewed as a usable resource. However, feasibility factors such as time, resource constraints, a lack of support and prioritisation of mental health within the school were consistently reported as limiting its use. This suggests that contextual factors impacted MindAid’s implementation and thus limits conclusions that can be drawn about its efficacy as a resource. For MindAid to be efficacious in improving the MHL of teachers, developments need to happen to both it as a resource, its implementation within schools and the school system as a whole.

## Integration, impact, and dissemination

**Integration**

**Interest in the topic area and rationale for the project**

The rationale for the project arose following a smaller scale pilot evaluation of MindAid completed in 2016 called “Piloting a mental health literacy (MHL) resource for teachers”. Post-data was collected from only 9/24 teachers meaning that a statistical analysis could not be completed. However, the qualitative data collected through focus groups with teachers indicated that MindAid was viewed as an acceptable resource. My project was therefore a larger scale trial evaluating the effectiveness, usability and feasibility of MindAid. My own personal interest in the project arose from a leaning towards Community Psychology approaches and seeing my role as a Clinical Psychologist as working beyond the individual but with the systems that surround him/her.

**Rationale for the systematic review**

For reasons of the Doctoral course time-tabling, I began the scoping for my systematic review in the summer of 2018, when I had already begun recruiting schools to the project. The obvious focus for the systematic review was to review the existing studies examining the effectiveness of MHL programs for secondary school teachers, focusing on quantitative results. However, a systematic review with this exact question was found in September 2018 and published in December 2018 (Anderson, Werner-Seidler, King, Gayed, Harvey & O’dea, 2018). I therefore considered widening the scope of my systematic review.

The high attrition rate in the pilot study, indicated a significant retention issue in this research population. I had already employed a range of retention strategies recommended by research into longitudinal studies (Abshire et al., 2017). Despite these, I was beginning to see low completion rates of questionnaires and low usage rates of MindAid itself. It became clear to me that there were factors beyond the longitudinal design and located in the school system that were impacting both the retention of teachers in the research project and their engagement with MindAid. It was clear that there were important issues around the implementation and acceptability of MLH programmes that would impact the project.

Many of these issues can only be explored using qualitative research and I decided to extend the systematic review to a qualitative synthesis of studies, exploring the perspectives of CYP and non-mental health professionals in school and community settings on the impact, acceptability and implementation of mental health promotion and literacy programmes. Implementation outcomes include acceptability, feasibility and sustainability. The school-based implementation literature that existed is mostly on mental health promotion programmes. This is perhaps because most MHL programmes that have been developed so far are one off training workshops. I therefore included mental health promotion programmes within my systematic review with the hope of generalising their findings to learn about what needs to change to MindAid as a resource and the systems within which it is being introduced to improve outcomes. As a result of the systematic review, I focused the qualitative telephone interviews on its feasibility to gather information regarding its implementation and asked the MindAid champion’s specific implementation questions within their interviews.

**The main findings from the systematic review were:**

1. Programmes improved components of MHL and other transferrable skills such as public speaking, leadership skills, critical thinking. Building relationships and meaningful connections was both a process in which individuals improved their MHL but was also an important outcome. Change beyond the individual was also noticed, in the systems that surrounded them such as community perception, school cohesiveness and in increased youth involvement in settings.
2. Programmes that were creative, strengths based, involved experiential learning components and a shared learning component through peer support were viewed as acceptable thus increasing engagement whereas professionalized or culturally inconsistent language and information heavy resources reduced engagement.
3. Successful implementation involved the consideration of the organisational and wider socio-political context, buy in by all stakeholders, infrastructure including resources, leadership support, participation by stakeholders in the development and running of the programme, and alignment of the programme with the organisational ethos and existing initiatives were considered important.

**Consistencies with themes from the systematic review synthesis**

I increasingly noticed that the schools’ engagement with MindAid depended on factors within the school and the surrounding context rather than MindAid as a resource. The systematic review highlighted that an organisations capacity and the wider context of the broader socio-political landscape including funding and policy impacts upon implementation of programmes. This certainly felt true of my project. I noticed that many schools had little in the way of working policies regarding mental health e.g. information sharing or processes by which students could raise concerns about theirs’s or others mental health. Other schools showed signs of agreeing to take part in the research project as more of a tick box exercise than a genuinely positive approach towards mental health. Individual motivational variables on the implementation mental health programmes are not well understood but their importance to the successful implementation has been demonstrated (Forman et al, 2012; Shapiro et al, 2010; Wood et al, 2015).

The organisational capacity and readiness to implement MindAid in turn determined the infrastructure and resources allocated to facilitate its implementation, thus consistent with the theme of infrastructure from the systematic review. Table 1 provides information on training time allocated, commitment of the champion and % of completed data. Some schools allocated the recommended training time and ongoing time within the school to keep MindAid on the agenda. In these school’s post-data collection was higher. In some schools, only half the training time needed was allocated. These schools tended to have a very low post-data collection. None of the schools took up my offers of ongoing support through telephone sessions or attendance at staff meetings, reporting that there was a lack of CPD time. I felt this had a significant impact on the implementation of MindAid as it was unlikely to be kept on the agenda within schools. In all schools I recommended the allocation of a MindAid champion, someone within the school who would drive MindAid forwards and to whom teachers could come with queries or concerns. Although all schools did identify a MindAid champion, their degree of commitment and motivation varied, evidenced to me by how much teachers understood of the project when I came into train them and whether they had included MindAid on the agenda of staff meetings over the course of the trial. Schools with a committed MindAid champion showed higher retention rates at post-data collection. Innovation specific capacities or conditions that are related to the successful implementation of a specific innovation include provider knowledge, skills and attitudes as well as the existence of programme champions (Flaspohler et al., 2008; Scaccia et al., 2015). However, the two most committed MindAid champions fed-back to me that they felt their power to allocate time to MindAid was limited. In their views, senior leadership could have supported them more and given MindAid higher priority.

Although teachers were involved in the design and development of MindAid and the research had a service-user advisory forum comprising teachers to advise on aspects of the trial, there needed to be more participation and collaboration with teaching staff within each recruited school. Having more participation and collaboration with not only members of SLT but with normal teaching staff and students may have provided a sense of ownership and facilitated positive staff attitudes towards MindAid. and identified areas for resource allocation that would facilitate it becoming embedded within the school. By seeing the introduction of MindAid not as the one-off training but as an iterative process of promotion and being a regular part of practice, championed by key members within the school, may have facilitated engagement and therefore retention of participants within the research project.

The systematic review identified that relationship building between staff members, with children and the wider community was a process which led to sustainable improvements in MHL and also an outcome of improved relationship building skills. These themes mostly came from studies exploring the impact of mental health promotion programmes, which included relationship building as a core component. In the qualitative interviews of my study, teachers commented that relationship building skills would have been a helpful addition to MindAid, building confidence and their ability to initiate first conversations with students they were worried about.

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| --- | --- | --- | --- | --- |
| Table 1. School information | | | | |
| Schools | Recruitment strategy | Training time | Committed and motivated Champion. | % of complete data |
| School 1 | Opt in | 1 ½ hours | YES | 81% |
| School 2 | Selected by Champion | 1 ½ hours | YES | 43% |
| School 3 | Heads of year and  Pastoral team | 1 ½ hours | YES | 60% |
| School 4 | Whole school | 25 minutes | NO | 23% |
| School 5 | Opted in for intervention then champion decided to withdraw and agreed control | 50 minutes | NO | 13% |

**Critical Appraisal of methodology**

*Recruitment*

Recruitment to the project was an achievement, with the project recruiting 145 teachers, more than the target identified in the power analysis (128). There were a number of factors that facilitated recruitment:

* *The socio-political context for schools*: mental health is very much on the agenda for schools. The Government Green Paper called ‘Transforming Children and Young People’s Mental Health Provision in December 2017 (DOH, 2017), which recommends MHFA training for all teachers had just been published. This is likely to have raised schools’ interest when I initially contacted them about the MindAid project.
* *Building relationships with schools*: I believe that my focus on relationship building with schools and being responsive and personable was important in gaining the schools buy in to the project. A number of school’s fed-back that this had been a key implementation facilitator for their school.
* Time to complete the pre-trial questionnaires was included in the allocated training time through discussion with SLT in each school.

*Design*

The literature on interventions targeting the MHL of secondary school teachers have cited a lack of control group as a limitation because you cannot fully attribute the improvements made by the teachers to the intervention itself (Kutcher, Wei & Morgan 2015; Kutcher et al, 2015; Kutcher et al, 2016). A cluster cross-over controlled trial where schools rather than teachers are assigned to groups with the agreement that teachers will receive the intervention emerged as the way forward. Cluster designs are appropriate in school settings because it is not feasible to assign individual teachers who were working in the same school as there could be contamination of information across groups within the same school or schools may have responded to training with changes in policy or procedures, which would affect all teachers (Jorm, 2010).

Although a randomised design was the ideal, due to practical considerations, a quasi-experimental design was agreed as a more feasible option. Due to the knowledge from the pilot study that schools had been difficult to recruit, it felt important to be as flexible as possible with schools and so schools were given the option being in the intervention or control group. Blinding was impossible due to the limited resources for the project.

A number of design issues regarding the control group may have negatively impacted upon the results. Two schools wanted to be able to have an initial group trialling MindAid before rolling it out to more teachers. Both of these schools did decide to train the second group, one as a control, the other in the intervention arm. This was agreed to increase sample size. However, it will have also increased the risk of confounding factors such as changes in practice, and conversation around mental health amongst teachers, prompted by MindAid.

Pragmatic trials with process evaluations offer an alternative to RCT designs and help to address the implementation challenges, which risk impacting outcomes (Audrey et al, 2016). The collection of process data helps to avoid type III errors (evaluating an intervention that was inadequately implemented). The purposes of process evaluations are to examine the context, implementation and receipt of the intervention by providing ongoing monitoring. Process evaluations can include questionnaires provided to recipients about their understanding of and attitudes towards the relevant policies and practices linked to the intervention and information on current similar initiatives. Data can examine the variation in level of staff interest and commitment and how schools responded to the recruitment training. Collecting this kind of data through the trial, may have facilitated implementation and shed more concrete light on some of my hypotheses regarding implementation and engagement of schools, thus informing factors to consider when implementing MindAid or similar initiatives in the real world. Although I included implementation questions as part of my telephone interviews, this would require quantitative implementation and process outcome measures as well.

*Outcome measures*

The selection of valid and reliable measures was a significant challenge in the design phase of the project. This is because of a number of issues with MHL measurements in the field:

1. Despite a wealth of research on MHL interventions, there are limited standardized scale measures available, particularly specific to young people’s mental health. In Wei, McGrath, Hayden and Kutcher’s (2015) review of MHL measures evaluating knowledge attitudes and help seeking, there were none that looked specifically at mental health of CYP, none targeting educators and few that assess all attributes of MHL.
2. There are a number of different definitions of MHL in the field, which range from including three to seven attributes of MHL. Attributes are often not clearly defined which means that they risk being used inter-changeably such as ‘attitudes’, ‘beliefs’ and ‘stigma’ (Spike & Hamer, 2018).
3. Of the scale-based measures available, there is a lack of standardisation and psychometric reporting across the literature (O’Connor & Casey, 2015; Wei, McGrath, Hayden and Kutcher, 2016). Where psychometric properties are reported e.g. internal consistency, the quality is often poor, for example, Cronbach Alpha scores ranged between 0.5 and 0.7 (Cohen, 1988).
4. Vignette measures such as the most commonly used Vignette Interview (Jorm et al, 1997) have been criticised because of the length of time to complete them and that they have no scale-based scoring system.

With hindsight I would have made the following changes to the vignette questionnaires:

* Inclusion of an item measuring how concerned the teacher would be for the child in the vignette. Adult help seeking models suggest that recognition of a problem is associated with perception of need for help. It would have been useful to include an item on concern to test this association
* The item which measured prescribed/proscribed/general techniques to help needed to be developed. Although a potentially useful item to assess teachers knowledge of helping options, the items were not piloted, which did not reveal that the three techniques had not been balanced evenly across the four vignettes, thus limiting any interpretations that could have been made.

The study did not include a follow up measure to look at the sustainability of its outcomes. A follow up measure may have been more likely to yield changes on the RIBS and the MAKS. It was unrealistic to expect scores on these items to change significantly when they measure behavioural change such as being willing to live with someone with a mental health problem.

*Service-user involvement*

Service-user involvement was mostly during the design and recruitment stage of the project. A service user advisory group was set up which was made up of CYP aged 11-29 years old and secondary school teachers. Their involvement can be conceptualised as ‘consultation’ within the Ladder of Participation model (Arnstein, 1969). The group was consulted at various stages of the project on specific issues relating to the design of the study. Their views informed the MindAid training, particularly on how to approach initial conversations with students (informed by young people themselves) and how to keep MindAid on the agenda and embed it within the school. They also provided feedback on study documents such as the participant information sheet and consent form, to trial the questionnaires and study promotion material. Their views were invaluable in providing an understanding from the system in which I was implementing the research. For example, CYP told me that the first conversation about a problem was critical. This led me to include it in the training and it was only then that teachers fed-back that this was one of their main concerns too, partly because there was a lack of policy about this process in schools. In hindsight it would have been helpful to have had more senior teachers such as a deputy head or head teacher in the advisory group for more diverse experience and therefore views, particularly on implementation.

Participatory research involves designing and executing research in collaboration with the target population (Cornwall & Jewkes, 2010). Conducting participatory research in schools means that schools become the centre for change rather than targeting change and it assists both students and teachers in articulating emerging problems and issues of concern and to identify processes and find solutions (Pine, 2009). A participatory research design, which involved students, teachers, senior leadership and students in the design and delivery of the research within each school may have overcome the barriers to implementing MindAid such as concerns about how students would react to using MindAid with them and may have improved engagement. It is also consistent with digital intervention frameworks which recommend stakeholder participation in all stages of the development process (Skinner et al, 2006).

**Impact**

**Academic impact**

Health literacy as a concept spans both Psychology and the Public Health field. Preventative interventions view cause as lying in the structural conditions of society as opposed to the individual. MHFA programs because of their psycho-educational components have been viewed as positive public health tools (Hadlackzy et al, 2012). Education has been an essential component to promote health throughout this century. Numerous public health initiative’s, reports and professional societies have promoted the development of school health. School programmes have received attention as a means to promote public health. Therefore, the academic impact of this research may better fit the public health field and its journals. This research project informs the academic field that although psychoeducation initiatives are perceived as acceptable in school settings, they may not be enough to change behaviour. It is also not enough to roll them out in schools without the appropriate infrastructure and policy to support them.

Whilst the RCT model is perceived as the gold standard (requiring a standardized intervention, with statistically measurable outcomes to be implemented uniformly with a specific target audience) these conditions are unlikely to be met in complex settings such as schools where social and environmental factors vary considerably. Even if strict standardisation could be achieved, producing evidence of efficacy under ‘ideal conditions’ is not sufficient to generalise conclusions to the real world in which programmes such as MindAid are ultimately required to be effective. For example, a number of MindAid champions commented that having someone responsive and knowledgeable in MindAid assisted greatly in its implementation. However, this is something that was part of the research and would not be available if MindAid were to be rolled out as an initiative across all schools.

The constraints imposed by trial designs make it almost impossible to use the flexible and participatory approaches considered fundamental to good practice by health promotion specialists and frameworks for digital interventions. Strategies for adapting RCT’s to achieve a better fit with complex interventions and settings have included gathering contextual and process data, completing a mixture of qualitative and quantitative research methods, using multiple research methods, investigators and data sources and undertaking translational and participatory research involving coalitions, which include practitioners, clients and the wider community. Pragmatic trials offer an alternative model for evaluating interventions in settings such as schools. These can look at: understanding and attitudes towards relevant polies linked to the intervention and information on similar initiatives currently or previously implemented; level of staff interest and commitment to the intervention; how schools respond to the recruitment training; perceived effect of data collection on staff and value of such initiatives.

**Real world impact**

With regard to MHL training programmes for teachers, this study confirms that there is a need to support teachers if they are to have a role in the early identification and prevention of mental health problems in CYP, as government reports currently recommend (DOH, 2017). Because there was insufficient use of MindAid, it is not possible to draw firm conclusions about its effectiveness as a tool for improving teachers MHL. The study has shown that there is an urgent need to thoroughly consider what kind of training is delivered to teachers and, crucially, how training initiatives are implemented into the school environment.

It may have been the factors relating to implementing MindAid in the real-world settings of schools that negatively impacted its usage and therefore outcomes. Prioritisation and capacity to commit to MindAid was highlighted as a major challenge in the thematic analysis. Policy makers have suggested OFSTED’s current focus on academic achievement means that mental health and wellbeing is not accorded sufficient priority or implemented properly in inspections despite its framework being revised in 2014 to include targets specific to personal development and wellbeing (HOC, 2017). The association for child and adolescent mental health described it as the “largest driving force in school practice”. Therefore, to increase prioritisation of initiatives of resources like MindAid in schools, they need to be endorsed by OFSTED. My reflection that some schools appeared to agree to take part in the project as a tick box exercise to have an approach to mental health, supports reports commenting that although mental health provision is being recommended for schools, in practice these initiatives are still not being prioritised and are currently at risk of being introduced in tokenistic ways (HOC, 2017).

The qualitative design in this project enhances its real-world impact. Contextual factors are increasingly cited as important in intervention development and deployment and that high-quality practices in mental health, need connections between science and then ongoing feedback from the real world (Ferlie & Shortell, 2001). Without the qualitative feedback from teachers, the contextual factors, which impacted upon engagement and outcomes would not have been acknowledged.

**Maximising benefits: Focus on implementation**

It is an important challenge to strengthen the evidence base in order to inform practice and policy globally Evidence based interventions often struggle to become embedded into school systems limiting their real-world impact. This was the case for the MindAid project. Despite reaching a large number of teachers and therefore students, it achieved no significant change in MHL scores when compared to a control group, supported by the low usage reported by most teachers. A deeper consideration of factors relevant to school context rather than just intervention content can help to facilitate the transition from mental health intervention research into school practice. Implementation research is key to the understanding of how and under what conditions programmes may be effective. Collections of this kind of data contribute to advancing knowledge on best practice in real settings (WHO, 2004). This would have maximised the benefits of this project to inform policy and may have increased engagement of schools.

**Dissemination**

The findings of my project were disseminated at the 2019 International Society for Research on Internet Interventions (ISRII) conference in New Zealand. The organisation’s mission is to foster excellence in the development and testing of various evidence-based eHealth promotion, prevention, treatment and maintenance programs targeting behavioural and mental health to improve the mental health and wellbeing of individuals. The research will also be presented at the Royal Holloway University of London annual conference in poster format. I have presented the whole project at Royal Holloway University to Clinical Psychology Doctoral students. I aim to publish the empirical article in Journals on both public health such as the BMC Public Health or specific to schools such as the Journal of School Health.

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**Appendices**

**Appendix A: Systematic review search terms**

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| --- | --- | --- | --- |
| Search Term 1: Mental health literacy and promotion | Search Term 2: Intervention | Search Term 3:  Qualitative design | Search Term 4: Population and setting |
| “Mental Health Literacy”  “Mental Health First Aid”  “Psychological literacy”  “depression literacy”  “Anxiety literacy”  “Mental health awareness”  “Mental health knowledge”  “Mental health education”  “Mental health promotion” | “Intervention”  “Training”  “Program” | “Qualitative”  “Narrative analysis”  “Phemenological”  “Grounded theory”  “Thematic analysis” | “School”  “Teachers”  “College”  “Young people”  “Adolescent”  “Child”  “Youth” |

**Appendix B: CASP Researcher rating table**

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| Appendix B: CASP Researcher summary table |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix B: CASP Researcher summary table | | | | | | | | | | |
| Source Paper | 1.Was there a clear statement of the aims of the research? | 2.Is a qualitative methodology appropriate? (Yes/No /Can’t tell) | 3.Was the research design appropriate to address the aims of the research? (Yes/No /Can’t tell) | 4.Was the recruitment strategy appropriate to the aims of the research? (Yes/No /Can’t Tell) | 5.Was the data collected in a way that addressed the research issue? Yes/No/ Can’t tell | 6.Has the relationship between researcher and participants been adequately considered? (Yes/No/ Can’t tell) | 7.Have ethical issues been taken into consideration? (Yes/No/ Can’t tell) | 8.Was the data analysis sufficiently rigorous? (Yes/No/ Can’t tell) | 9.Is there a clear statement of findings (Yes/No/ Can’t tell) | How valuable is the research? |
| Watkins, Allen, Goodwill & Noel., (2016) | YES | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | Provides valuable insight into the reasons for the positive effect of training and suggestions for improvement |
| Tilhaun et al., (2017) | YES | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | Provides in-depth insight into impact and barriers to impact of training in terms of behaviour change |
| Kidger et al., (2016) | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Provides in depth insight into acceptability and impact of an additional intervention to MHFA |
| Wasserman et a.,l (2018) | YES | YES | CAN’T TELL | YES | YES | YES | YES | YES | YES | Provides valuable insight into individual differences in responses and engagement to intervention |
| Wilde et al., (2018) | YES | YES | YES | CAN’T TELL | YES | CAN’T TELL | YES | YES | YES | Provides indepth insight into the implementation process of an intervention at different parts of the system |
| Leadbeater, Gladstone, Thompson, Sukhawath-aakul & Desjardins (2012) | YES | YES | CAN’T TELL | CAN’T TELL | YES | CAN’T TELL | YES | YES | YES | Provides valuable insight into implementation factors within school settings from multiple stakeholder perspectives |
| Schwartz, Dinnen, Millman, Dixon & Flaspohler. (2016) | YES | YES | CAN’T TELL | NO | YES | YES | CAN’T TELL | YES | YES | Provides detailed insight of the impact of a novel training |
| Lendrum, Humphrey & Wigelsworth. (2013) | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Provides a thorough and insightful evaluation of implementation |
| Jenkins, Bungay, Patterson, Saewyc & Johnson (2018). | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Detailed insight into participatory research design completed in a community setting |
| Wasserman et al. (2012) | NO | YES | YES | YES | YES | YES | YES | YES | YES | Detailed examination of youth perspectives |
| Firth et al. (2008) | YES | YES | YES | YES | YES | YES | YES | YES | YES | Detailed insight into the process of implementation of an initiative from the perspective of programme co-ordinatos. |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix B: CASP Researcher summary table | | | | | | | | | | |
| Source Paper | 1.Was there a clear statement of the aims of the research? | 2.Is a qualitative methodology appropriate? (Yes/No /Can’t tell) | 3.Was the research design appropriate to address the aims of the research? (Yes/No /Can’t tell) | 4.Was the recruitment strategy appropriate to the aims of the research? (Yes/No /Can’t Tell) | 5.Was the data collected in a way that addressed the research issue? Yes/No/ Can’t tell | 6.Has the relationship between researcher and participants been adequately considered? (Yes/No/ Can’t tell) | 7.Have ethical issues been taken into consideration? (Yes/No/ Can’t tell) | 8.Was the data analysis sufficiently rigorous? (Yes/No/ Can’t tell) | 9.Is there a clear statement of findings (Yes/No/ Can’t tell) | How valuable is the research? |
| Watkins, Allen, Goodwill & Noel., (2016) | YES | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | Provides valuable insight into the reasons for the positive effect of training and suggestions for improvement |
| Tilhaun et al., (2017) | YES | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | Provides in-depth insight into impact and barriers to impact of training in terms of behaviour change |
| Kidger et al., (2016) | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Provides in depth insight into acceptability and impact of an additional intervention to MHFA |
| Wasserman et a.,l (2018) | YES | YES | CAN’T TELL | YES | YES | YES | YES | YES | YES | Provides valuable insight into individual differences in responses and engagement to intervention |
| Wilde et al., (2018) | YES | YES | YES | CAN’T TELL | YES | CAN’T TELL | YES | YES | YES | Provides indepth insight into the implementation process of an intervention at different parts of the system |
| Leadbeater, Gladstone, Thompson, Sukhawath-aakul & Desjardins (2012) | YES | YES | CAN’T TELL | CAN’T TELL | YES | CAN’T TELL | YES | YES | YES | Provides valuable insight into implementation factors within school settings from multiple stakeholder perspectives |
| Schwartz, Dinnen, Millman, Dixon & Flaspohler. (2016) | YES | YES | CAN’T TELL | NO | YES | YES | CAN’T TELL | YES | YES | Provides detailed insight of the impact of a novel training |
| Lendrum, Humphrey & Wigelsworth. (2013) | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Provides a thorough and insightful evaluation of implementation |
| Jenkins, Bungay, Patterson, Saewyc & Johnson (2018). | YES | YES | YES | YES | YES | CAN’T TELL | YES | YES | YES | Detailed insight into participatory research design completed in a community setting |
| Wasserman et al. (2012) | NO | YES | YES | YES | YES | YES | YES | YES | YES | Detailed examination of youth perspectives |
| Firth et al. (2008) | YES | YES | YES | YES | YES | YES | YES | YES | YES | Detailed insight into the process of implementation of an initiative from the perspective of programme co-ordinatos. |

**Appendix C: CASP Second rater rating table**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix C: CASP Second rater rating tool | | | | | | | | | | |
| **Source Paper** | **1.Was there a clear statement of the aims of the research?** | **2.Is a qualitative methodology appropriate? (Yes/No /Can’t tell)** | **3.Was the research design appropriate to address the aims of the research? (Yes/No /Can’t tell)** | **4.Was the recruitment strategy appropriate to the aims of the research? (Yes/No /Can’t Tell)** | **5.Was the data collected in a way that addressed the research issue? Yes/No/ Can’t tell** | **6.Has the relationship between researcher and participants been adequately considered? (Yes/No/ Can’t tell)** | **7.Have ethical issues been taken into consideration? (Yes/No/ Can’t tell)** | **8.Was the data analysis sufficiently rigorous? (Yes/No/ Can’t tell)** | **9.Is there a clear statement of findings (Yes/No/ Can’t tell)** | **How valuable is the research?** |
| Jenkins et al., 2018 | Yes  Research question clearly presented. The introduction makes a case for these research aims | Yes  There is a quant method for outcomes, but impact is best captured using qual method | Yes  Mixed method design is justified. Ague this allows for a comprehensive picture of impacts and outcomes | Yes  All student offered quant intervention. The qual interviews selected through purposive sampling | Yes  Give some details of the interview schedule, and process is outlined | Can’t tell  They have young people researchers, but the relationship between them and the participants is not discussed. | Yes  Study received ethical approval and there is explanation of how ethics was implemented | Yes  Thematic analysis used, detailed description of process, used multiple researchers, used feedback from stakeholders | Yes  Qual interviews support quant findings, discussed in relation to research question, provide quotes | Yes  Identify future research and application of the findings |
| Wise et al., 2016 | Yes  Research question clearly presented. The introduction makes a case for these research aims | Yes  There is a quant method looking at feasibility of RCT, using qual method to explore feasibility, acceptability, sustainability, usefulness | Yes  Want to answer several research questions, and different methods are appropriate for these different questions | Yes  Recruit schools until have an appropriate socioeconomic mix  For interviews they recruit people with a range of positions | Yes  Use a rage of methods e.g. observation, focus groups, interviews | Can’t no  No clear comment on this | Yes  Study received ethical approval and there is explanation of how ethics was implemented | Yes  Talk about how the emerging codes develop, use multiple members of research team | Yes  These are discussed relation to research questions, provide quotes | Yes  Discuss implications and relevance to wider literature |
| Leadbetter et al., 2013 | Yes  Clear aims which build on existing literature i.e. other reasons schools don’t take up programmes | Yes  Want to explore uptake in real world setting. Want to find new reasons for this, so qual method better | Yes | Yes  Explain how school and individual participants were selected.  Second wave selected to answer questions arising | Yes  Give detail of interview questions asked | Partially  State that input was limited to doing interviews (rather than the intervention) but they don’t explore the reasons / impact of this | Yes  Study received ethical approval and there is explanation of how ethics was implemented | Yes  Clear and rigorous explanation of thematic analysis | Yes  Clear organisation of results | Yes  Give guidance on implementation |

## Appendix D: Royal Holloway University ethics application form

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**A screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generatedA screenshot of a social media post

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**Royal Holloway University Ethical Approval**

PI: Helen Pote  
Project title: Evaluating the effectiveness MindAid in improving the Mental Health Literacy of secondary school teachers  
  
REC ProjectID: 750  
  
Your application has been approved by the Research Ethics Committee.  
Please report any subsequent changes that affect the ethics of the project to the University Research Ethics Committee [ethics@rhul.ac.uk](mailto:ethics@rhul.ac.uk)

**Appendix E: Example first email to schools**

Dear school colleagues,

I would like to invite you to participate in the second phase of a project being run by a Clinical Psychology trainee at Royal Holloway University (RHUL), Tessa Saunders, and co-supervised by me.

This project is giving secondary schools the opportunity to use a **free**, newly developed web-based application, designed as an easily accessible training tool specifically for the use of secondary school staff to improve their knowledge, ability and confidence in identifying and responding to mental health difficulties in their students.

If a school agrees to take part, they will receive a brief 1-2 hour training with Tessa and her RHUL supervisor Dr Helen Pote, who designed and developed the application. Following the training, teachers will then be able to use the application for three months with direct support from Tessa. All we will need is for teachers to complete some brief questionnaires at the time of the training and after the three months. This important in helping us evaluate the efficacy and usability of the application.

The project links well to the Government’s recent Green Paper recommending all school staff to have mental health training. Teachers will be provided with certificates at the end of the training that can be used towards their CPD. Schools can be provided with the overall baseline data to identify ongoing training needs in their staff. The school will have ongoing access to the app following the end of the three-month period.

We are very excited about this project and hope that you may be interested in taking part.

Tessa will be following up with you herself, but please do contact either of us ([Tessa.Saunders.2016@live.rhul.ac.uk](mailto:Tessa.Saunders.2016@live.rhul.ac.uk)) if you would like to know more.

**Appendix F: Informal invitation poster**

**A screenshot of a cell phone

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**Appendix G: Participant Information Sheet**

A screenshot of a social media post

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**Appendix H: Participant Consent form**

A screenshot of a social media post

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**Appendix I: Outline of Intervention MindAid http://mindaid.herokuapp.com/**

The intervention (MindAid) is a web-based application that can be accessed on any device. It has been designed as a training tool, specifically for the use of Secondary School teaching staff to improve their mental health literacy. MindAid comprises of four functions:

1. The LISTEN section is designed to help teachers guide conversations with pupils in order to gain important details about how they are feeling, which can make referrals easier later on. These tips are incorporated into an acronym LISTEN to make it easy to remember and follow. This is supplemented with potential follow up questions, all of which are open to allow pupils to talk freely.
2. The LEARN section is designed to tell teachers ‘10 things to know’ about a range of common mental health issues, such as anxiety or autism. This gives teachers the essential information to quickly find the information they need. Each section has a link to the website MindEd, which takes you to a page providing further information each topic and an educational video if the individual wishes to learn more.
3. The QUESTION section is designed so that teachers can screen pupils they are concerned about using the ‘Me and My School Questionnaire’ (MMSQ) (Patalay, Deighton, Fonagy, Vostanis, & Wolpert, 2014). This has been standardized against the Strengths and Difficulties Questionnaire (SDQ) and validated for online use (Deighton et al 2013). The SDQ has been recommended as a screening measure by the 2004, National Statistics survey reporting on the prevalence of mental health in children and young people in Great Britain (Green, McGinnity, Meltzer, Ford & Goodman, 2004). The MMSQ has two subscales, emotional difficulties and behavioural difficulties, giving scores for the two areas of difficulties and so will help support specificity in teacher’s ratings of the type of distress (Patalay 2014; Deighton et al, 2013)
4. The REFER section is GPS localised and is designed to provide details of the local services available to provide professional support, within the school and community.

References

Deighton, J., Tymms, P., Vostanis, P., Belsky. J., Fonagy, P., Brown, A., Martin, A., Patalay, P. & Wolpert, W. (2013). The development of a school based measure of child mental health. *Journal of Psychoeducational Assessment*, 31, 247

Green, H., McGinnity, Á., Meltzer, H., Ford, T., & Goodman, R. (2005). *Mental health ofchildren and young people in Great Britain*. London: Palagrave

Patalay, P., Deighton, J. Fonagy, P. Vostanis, P. & Wolpert, M. (2014). Clinical validity of the me and my school questionnaire: a self report mental health measure for children and adolescents. *Child and Adolescent Psychiatry and Mental Health*, 8, 17

**Appendix J: Proudfoot (2011) Guidelines for reporting internet research.**

*Type and dose of Intervention*

MindAid falls into Type B: Preventative, early intervention, treatment and self-management programs that do not require registration and screening and do not include tailoring or tracking. Dose is variable and dependent on user need.

*Professional support*

Professional support was provided by the main researcher, a trainee Clinical Psychologist and an identified MindAid champion (internal to each school) during the trial of using MindAid. This support was flexible to what the school needed but included email, telephone and coming in to staff meetings. Following the end of the trial, the MindAid champion took on the support role for MindAid.

*Programme Interactivity*

MindAid includes an interactive questionnaire (Me and My Feelings Questionnaire) to be used with students. MindAid is linked to MindEd a national resource which includes interactive training videos on 19 common problems seen in children and young people.

*Multimedia channels of activity*

MindAid is mostly made up of text, graphics and animations

*Audience reach*

Type A: broad reach coupled with open access to all users

*Program evaluation*

Process measures: Web usage through google analytics

**Appendix K: Demographics Questionnaire**

|  |  |
| --- | --- |
| **1.** | **What is your gender? *Please tick in the left hand box*** |
|  | Male |
|  | Female |
|  | Prefer not to say |

|  |  |
| --- | --- |
| **2.** | **What is your age? *Please specify below*** |
|  | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3.** | | **What is your Ethnicity?** | | | | | | |
| White | | | Mixed multiple ethnic group | | Asian/Asian British | | Black/Black British | |
|  | British | |  | White and Black Caribbean |  | Indian |  | African |
|  | Irish | |  | White and Black African |  | Pakistani |  | Caribbean |
|  | Gypsy/irish traveller | |  | White and Asian |  | Bangladeshi |  |  |
|  | Other. Please specify | |  | Other. Please specify |  | Other. Please specigy |  | Other Black/Black British. Plesse specify |

|  |  |
| --- | --- |
| **4.** | **What is the highest level of education you have completed? *Please specify below*** |
|  | |

|  |  |
| --- | --- |
| **5.** | **What is your current job title? *Please specify below*** |
|  | |

|  |  |
| --- | --- |
| **6.** | **How many years teaching experience do you have? *Please specify below*** |
|  | |

|  |  |  |
| --- | --- | --- |
| **7.** | **Have you received specialist mental health training before?** | |
|  | YES | *If YES please expand in this box:* |
|  | N0 |

|  |  |  |
| --- | --- | --- |
| **8.** | **Have you experienced working with children with mental health problems before?** | |
|  | YES | *If YES please expand in this box:* |
|  | NO |

**Appendix L: The Vignette Questionnaire**

**The Vignette Questionnaire**

(Pre and post training; 12 minute total completion time)

***Please read through each of the four vignettes and answer the following questions which are based on the vignettes***

**Oppositional defiant disorder vignette (Loades & Mastroyannopoulou, 2010)**

(Pre and post training; 12 minute total completion time)

**Billy’s Story**

Billy is a nine-year-old male living with his mother, father and three sisters. He is in Year 4. He is often disobedient at home and school. He never seems to feel guilty after misbehaving. He frequently destroys his things, and steals, and has run away from home at least six times. He regularly gets into fights and seems to only hang around children who get into trouble. He has physically attacked others twice his size. Billy argues with everyone. He doesn't get along with his sisters or any of the children in the neighbourhood. He is mean and cheats whenever he plays with them. He's always swearing, having temper tantrums, and threatening people. Billy frequently destroys his sister's belongings. He also breaks articles of furniture in the home and other things that don't belong to him. He's mostly irritable and stubborn.

**1.Do you think Billy has a mental health problem?** YES NO Don’t know

|  |
| --- |
| **2. If you have answered YES to the above question, what name is given to this problem?** |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3.** | Not at all confident | A little bit confident | Moderately confident | Quite a bit confident | Extremely confident |
| If Billy was a child you had contact with, how confident would you feel in helping him? |  |  |  |  |  |

|  |  |
| --- | --- |
| **4. List 5 symptoms that Billy is displaying that makes you think he has the problem you have named** | |
| i. |  |
| ii. |  |
| iii. |  |
| Iv. |  |
| v. |  |

|  |  |
| --- | --- |
| **5. Provide 3 reasons why Billy may be displaying this behaviour** | |
| i. |  |
| ii. |  |
| iii. |  |

|  |  |
| --- | --- |
| **6. If you are concerned about Billy, what could you do? (Select one or more options from the answers below)** | |
|  | Refer Billy to CAMHS via his GP |
|  | Talk to Billy and try to build a positive relationship with him |
|  | Do nothing, his parents need to be more hands on |
|  | Think together with Billy’s parents about developing a consistent home-school approach |
|  | Talk to senior colleagues and consider a referral to appropriate external services such as safeguarding, social services or A&E |
|  | Teach Billy some relaxation exercises |
|  | Normalise what Billy is experiencing and that everyone experiences these symptoms sometimes |
|  | Look at self-help books on how to help Billy. |
|  | Reward Billy’s positive behaviour and give praise. Provide him with calm limits when he is misbehaving |
|  | Tell Billy to ‘snap out of it’ |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7. If Billy were to seek help, how helpful would you rate each of these options?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| GP or family doctor |  |  |  |  |  |  |  |
| Mental Health Professional (e.g. psychologist, counsellor, psychiatrist |  |  |  |  |  |  |  |
| Social worker |  |  |  |  |  |  |  |
| School (eg. teacher, school counsellor) |  |  |  |  |  |  |  |
| Naturopath/herbalist |  |  |  |  |  |  |  |
| Spiritiual Healer (Clergy, minister, priest) |  |  |  |  |  |  |  |
| Billy tries to deal with his problems on his own |  |  |  |  |  |  |  |
| Of these 7 options, which one do you think will be the most helpful? *Please write your answer below* | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **8. How helpful do you think the following approaches would be for Billy?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| Behavioural support team within a school |  |  |  |  |  |  |  |
| Family therapy |  |  |  |  |  |  |  |
| Electroconvulsive Therapy (ECT) |  |  |  |  |  |  |  |
| Parent training |  |  |  |  |  |  |  |
| Cognitive behavioural therapy (CBT) |  |  |  |  |  |  |  |
| Hypnosis |  |  |  |  |  |  |  |
| Admission to a psychiatric ward |  |  |  |  |  |  |  |
| A special diet of avoiding certain foods |  |  |  |  |  |  |  |

**Depression vignette (Jorm, Wright & Morgan, 2007)**

**John’s Story**

John is a 16 year old who has been unusually sad and miserable for the last few weeks. He is tired all the time and has trouble sleeping at night. John doesn’t feel like eating and has lost weight. He can’t keep his mind on his studies and his marks have dropped. He puts off making any decisions and even day-to-day tasks seem too much for him. His parents and friends are very concerned about him.

**1.Do you think John has a mental health proble**YES NO Don’t know

|  |
| --- |
| **2. If you have answered YES to the above question, what name is given to this problem?** |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3.** | Not at all confident | A little bit confident | Moderately confident | Quite a bit confident | Extremely confident |
| If John was a child you had contact with, how confident would you feel in helping him? |  |  |  |  |  |

|  |  |
| --- | --- |
| **4. List 5 symptoms that John is displaying that makes you think he has the problem you have named** | |
| i. |  |
| ii. |  |
| iii. |  |
| Iv. |  |
| v. |  |

|  |  |
| --- | --- |
| **5. Provide 3 reasons why John may be displaying this behaviour** | |
| i. |  |
| ii. |  |
| iii. |  |

|  |  |
| --- | --- |
| **6. If you are concerned about John, what could you do? (Select one or more options from the answers below)** | |
|  | Refer John to CAMHS via his GP |
|  | Talk to John and try to build a positive relationship with him |
|  | Do nothing, it’s not your responsibility. It is the pastoral teams responsibility. |
|  | Be empathetic in a real way, acknowledge what is difficult or painful |
|  | Talk to senior colleagues and consider a referral to appropriate external services such as safeguarding, social services or A&E |
|  | Teach John some relaxation exercises |
|  | Reconnect John with his previous interests and support him to good lifestyle habits such as exercise |
|  | Tell John to ‘snap out of it’ |
|  | Reward John positive behaviour and give praise. Provide him with calm limits when he is misbehaving |
|  | Deal with actively harmful or negative stresses like bullying |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7. If John were to seek help, how helpful would you rate each of these options?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| GP or family doctor |  |  |  |  |  |  |  |
| Mental Health Professional (e.g. psychologist, counsellor, psychiatrist |  |  |  |  |  |  |  |
| Social worker |  |  |  |  |  |  |  |
| School (eg. teacher, school counsellor) |  |  |  |  |  |  |  |
| Naturopath/herbalist |  |  |  |  |  |  |  |
| Spiritiual Healer (Clergy, minister, priest) |  |  |  |  |  |  |  |
| John tries to deal with his problems on his own |  |  |  |  |  |  |  |
| Of these 7 options, which one do you think will be the most helpful? *Please write your answer below* | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **8. How helpful do you think the following approaches would be for John?** | | | | | | | | | | | | | |
|  | Very helpful | | Helpful | | Somewhat Helpful | | Neither Helpful or Unhelpful | Somewhat unhelpful | | | Unhelpful | | Very unhelpful |
| Anti-depressants once talking therapy has been considered |  | |  | |  | |  |  | | |  | |  |
| Antipsychotic medication |  | |  | |  | |  |  | | |  | |  |
| Hypnosis |  | |  | |  | |  |  | | |  | |  |
| Cognitive behavioural therapy (CBT) |  | |  | |  | |  |  | | |  | |  |
| Family therapy |  | |  | |  | |  |  | | |  | |  |
| Physical exercise |  | |  | |  | |  |  | | |  | |  |
| Hypnosis |  | |  | |  | |  |  | | |  | |  |
| A special diet of avoiding certain foods |  |  | |  | |  | | |  |  | |  | |

**Anxiety vignette (Jorm, Wright & Morgan, 2007)**

**Jeanie’s story**

Jeanie is a 16 year old living at home with her parents. Jeanie started at your school last year and you are the only friend she has made so far. She seems very shy and when you ask her why she doesn't make more of an effort, she says she would really like to make more friends but is scared that she’ll do or say something embarrassing when she’s around others. Although Jeanie’s schoolwork is OK she rarely says a word in class and becomes incredibly nervous, trembles, blushes and seems like she might vomit if she has to answer a question or speak in front of the class. At her house you have seen that Jeanie is quite talkative with her family, but becomes quiet if anyone she doesn’t know well comes over. She has stopped answering the phone and doesn't come to parties anymore. Jeanie says she knows her fears are unreasonable but she can’t seem to control them and this really upsets her.

**1.Do you think Jeanie has a mental health problem?** YES NO Don’t know

|  |
| --- |
| **2. If you have answered YES to the above question, what name is given to this problem?** |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3.** | Not at all confident | A little bit confident | Moderately confident | Quite a bit confident | Extremely confident |
| If Jeanie was a child you had contact with, how confident would you feel in helping her? |  |  |  |  |  |

|  |  |
| --- | --- |
| **4. List 5 symptoms that Jeanie is displaying that makes you think she has the problem you have named** | |
| i. |  |
| ii. |  |
| iii. |  |
| Iv. |  |
| v. |  |

|  |  |
| --- | --- |
| **5. Provide 3 reasons why Jeanie may be displaying this behaviour** | |
| i. |  |
| ii. |  |
| iii. |  |

|  |  |
| --- | --- |
| **6. If you are concerned about Jeanie, what could you do? (Select one or more options from the answers below)** | |
|  | Refer Jeanie to CAMHS via her GP |
|  | Talk to Jeanie and try to build a positive relationship with her |
|  | Tell Jeanie to ‘snap out of it’ |
|  | Do nothing, the parents need to be more hands on |
|  | Do nothing, Jeanie will grow out of it |
|  | Teach Jeanie some relaxation and breathing exercises |
|  | Normalise what Jeanie is experiencing and that everyone experiences these symptoms sometimes |
|  | Do nothing, it’s not your responsibility. It is the pastoral teams responsibility. |
|  | Refer Jeanie to the school counsellor |
|  | Listen to Jeanie’s fears and praise her for attempts at coping |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7. If Jeanie were to seek help, how helpful would you rate each of these options?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| GP or family doctor |  |  |  |  |  |  |  |
| Mental Health Professional (e.g. psychologist, counsellor, psychiatrist |  |  |  |  |  |  |  |
| Social worker |  |  |  |  |  |  |  |
| School (eg. teacher, school counsellor) |  |  |  |  |  |  |  |
| Naturopath/herbalist |  |  |  |  |  |  |  |
| Spiritiual Healer (Clergy, minister, priest) |  |  |  |  |  |  |  |
| Jeanie tries to deal with her problems on her own |  |  |  |  |  |  |  |
| Of these 7 options, which one do you think will be the most helpful? *Please write your answer below* | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **8. How helpful do you think the following approaches would be for Jeanie?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| Antipsychotic medication |  |  |  |  |  |  |  |
| Hypnosis |  |  |  |  |  |  |  |
| Admission to a psychiatric ward |  |  |  |  |  |  |  |
| Relaxation techniques |  |  |  |  |  |  |  |
| Cognitive behavioural therapy (CBT) |  |  |  |  |  |  |  |
| Family therapy |  |  |  |  |  |  |  |
| Electroconvulsive therapy (ECT) |  |  |  |  |  |  |  |
| Medication on a short-term basis |  |  |  |  |  |  |  |

**Eating disorder vignette (Jorm, Wright & Morgan, 2007)**

**Simone’s story**

Simone is a 15 year-old living at home with her parents. A few times a week, when she is feeling upset, she sneaks food into her bedroom, including biscuits and chocolate bars. She eats until uncomfortably full, then feels guilty about overeating. Although she feels disgusted with herself about the amount she can eat, she cannot seem to stop herself from eating. When she is finished, she hides the empty plates and wrappers under the bed or under piles of clothes on the floor. The next day she tells herself that she will exercise hard to make up for it, running and doing sit-ups until she is exhausted. Simone’s mum has noticed that she has been doing this for at least half a year.

**1.Do you think Simone has a mental health problem?** YES NO Don’t know

|  |
| --- |
| **2. If you have answered YES to the above question, what name is given to this problem?** |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3.** | Not at all confident | A little bit confident | Moderately confident | Quite a bit confident | Extremely confident |
| If Simone was a child you had contact with how confident would you feel in helping her? |  |  |  |  |  |

|  |  |
| --- | --- |
| **4. List 5 symptoms that Simone is displaying that makes you think she has the problem you have named** | |
| i. |  |
| ii. |  |
| iii. |  |
| Iv. |  |
| v. |  |

|  |  |
| --- | --- |
| **5. Provide 3 reasons why Simone may be displaying this behaviour** | |
| i. |  |
| ii. |  |
| iii. |  |

|  |  |
| --- | --- |
| **6. If you are concerned about Simone, what could you do? (Select one or more options from the answers below)** | |
|  | Talk to Simone and try to build a positive relationship with her |
|  | Tell Simone she needs to manage her diet better |
|  | Do nothing, her parents need to be more hands on |
|  | Deal with actively harmful or negative stresses like bullying |
|  | Use ‘I’ statements that are non-accusing like “I’m worried about you” not “you are making me worried” |
|  | Teach Simone some relaxation exercises |
|  | Talk to senior colleagues and consider a referral to a specialist mental health service |
|  | Involve Simone’s parents to provide her with consistent support |
|  | Do nothing, it’s not your responsibility, it’s the pastoral teams responsibility |
|  | Refer Simone to CAMHS via her GP |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **7. If Simone were to seek help, how helpful would you rate each of these options?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| GP or family doctor |  |  |  |  |  |  |  |
| Mental Health Professional (e.g. psychologist, counsellor, psychiatrist |  |  |  |  |  |  |  |
| Social worker |  |  |  |  |  |  |  |
| School (eg. teacher, school counsellor) |  |  |  |  |  |  |  |
| Naturopath/herbalist |  |  |  |  |  |  |  |
| Spiritiual Healer (Clergy, minister, priest) |  |  |  |  |  |  |  |
| Simone tries to deal with her problems on her own |  |  |  |  |  |  |  |
| Of these 7 options, which one do you think will be the most helpful? *Please write your answer below* | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **8. How helpful do you think the following approaches would be for Simone?** | | | | | | | |
|  | Very helpful | Helpful | Somewhat Helpful | Neither Helpful or Unhelpful | Somewhat unhelpful | Unhelpful | Very unhelpful |
| Psycho-education |  |  |  |  |  |  |  |
| Electro-convulsive therapy |  |  |  |  |  |  |  |
| Relaxation techniques |  |  |  |  |  |  |  |
| Psychodynamic therapy |  |  |  |  |  |  |  |
| Cognitive behavioural therapy (CBT) |  |  |  |  |  |  |  |
| Family therapy |  |  |  |  |  |  |  |
| Referral to a specialist mental health service for the particular problem |  |  |  |  |  |  |  |
| Hypnosis |  |  |  |  |  |  |  |

**Authors**

Loades, M. E., & Mastroyannopoulou, K. (2010a). Teachers’ recognition of children’s mental health problems. *Child and Adolescent Mental Health, 15*(3), 150-156.

Jorm AF, Wright A, Morgan AJ. (2007) Where to seek help for a mental disorder? national survey of the beliefs of Australian youth and their parents. *Medical Journal Australia, 187*, 556–560

**Appendix M: The Mental Health Literacy Scale**

**Mental Health Literacy Scale**

The purpose of these questions is to gain an understanding of your knowledge of various aspects to do with mental health. When responding, we are interested in your degree of knowledge. Therefore, when choosing your response, consider that:

Very unlikely = I am certain that it is NOT likely

Unlikely = I think it is unlikely but am not certain

Likely = I think it is likely but am not certain

Very Likely = I am certain that it IS very likely

1

If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **Social Phobia**

Very unlikely Unlikely Likely Very Likely

2

If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **Generalised Anxiety Disorder**.

Very unlikely Unlikely Likely Very Likely

3

If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **Major Depressive Disorder**

Very unlikely Unlikely Likely Very Likely

4

To what extent do you think it is likely that **Personality Disorders** are a category of mental illness

Very unlikely Unlikely Likely Very Likely

5

To what extent to you think it is likely that **Dysthymia** is a disorder

Very unlikely Unlikely Likely Very Likely

6

To what extent do you think it is likely that the diagnosis of **Agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing

Very unlikely Unlikely Likely Very Likely

7

To what extent do you think it is likely that the diagnosis of **Bipolar Disorder** includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood

Very unlikely Unlikely Likely Very Likely

8

To what extent do you think it is likely that the diagnosis of **Drug Dependence** includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

Very unlikely Unlikely Likely Very Likely

9

To what extent do you think it is likely that in general in the U.K., **women are MORE likely to experience a mental** illness **of any kind compared to men**

Very unlikely Unlikely Likely Very Likely

10

To what extent do you think it is likely that in general, in the U.K.**, men are MORE likely to experience an anxiety disorder compared to women**

Very unlikely Unlikely Likely Very Likely

When choosing your response, consider that:

* Very Unhelpful = I am certain that it is NOT helpful
* Unhelpful = I think it is unhelpful but am not certain
* Helpful = I think it is helpful but am not certain
* Very Helpful = I am certain that it IS very helpful
* 11

To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)

Very unlikely Unlikely Likely Very Likely

12

To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions

Very unlikely Unlikely Likely Very Likely

When choosing your response, consider that:

* Very unlikely = I am certain that it is NOT likely
* Unlikely = I think it is unlikely but am not certain
* Likely = I think it is likely but am not certain
* Very Likely = I am certain that it IS very likely

13

To what extent do you think it is likely that **Cognitive Behaviour Therapy (CBT)** is a therapy based on challenging negative thoughts and increasing helpful behaviours

Very unlikely Unlikely Likely Very Likely

14

Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

*If you are at immediate risk of harm to yourself or others*

Very unlikely Unlikely Likely Very Likely

15

Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

*if your problem is not life-threatening and they want to assist others to better support you*

Very unlikely Unlikely Likely Very Likely

Please indicate to what extent you agree with the following statements:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 16. I am confident that I know where to seek information about mental illness |  |  |  |  |  |
| 17. I am confident using the computer or telephone to seek information about mental illness |  |  |  |  |  |
| 18. I am confident attending face to face appointments to seek information about mental illness (e.g., seeing a GP) |  |  |  |  |  |
| 19. I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness |  |  |  |  |  |
| 20. People with a mental illness could snap out if it if they wanted |  |  |  |  |  |
| 21. A mental illness is a sign of personal weakness |  |  |  |  |  |
| 22. A mental illness is not a real medical illness |  |  |  |  |  |
| 23. People with a mental illness are dangerous |  |  |  |  |  |

Please indicate to what extent you agree with the following statements:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Agree or Disagree | Agree | Strongly Agree |
| 24. It is best to avoid people with a mental illness so that you don't develop this problem |  |  |  |  |  |
| 25. If I had a mental illness I would not tell anyone |  |  |  |  |  |
| 26. Seeing a mental health professional means you are not strong enough to manage your own difficulties |  |  |  |  |  |
| 27. If I had a mental illness, I would not seek help from a mental health professional |  |  |  |  |  |
| 28. I believe treatment for a mental illness, provided by a mental health professional, would not be effective |  |  |  |  |  |

Please indicate to what extent you agree with the following statements:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Definitely Unwilling | Probably Unwilling | Neither Unwilling or Willing | Probably Willing | Definitely Willing |
| 29. How willing would you be to move next door to someone with a mental illness? |  |  |  |  |  |
| 30. How willing would you be to spend an evening socialising with someone with a mental illness? |  |  |  |  |  |
| 31. How willing would you be to make friends with someone with a mental illness? |  |  |  |  |  |
| 32. How willing would you be to have someone with a mental illness start working closely with you on a job? |  |  |  |  |  |
| 33. How willing would you be to have someone with a mental illness marry into your family? |  |  |  |  |  |
| 34. How willing would you be to vote for a politician if you knew they had suffered from mental illness? |  |  |  |  |  |
| 35. How willing would you be to employ someone if you knew they had a mental illness? |  |  |  |  |  |

**Appendix N: The Reported and Intended Behaviour Scale**

**A screenshot of a cell phone

Description automatically generated**

**Appendix O: The Mental Health Knowledge Scale**

**A screenshot of a cell phone

Description automatically generated**

**Appendix P: The MindAid Feedback Questionnaire**

**MindAid Feedback Questionnaire**

1. *How often did you use MindAid?*

Never 3-4 times a week

Once a month Daily

Biweekly More than daily

1-2 times a week

Could you give reasons for your answer?

1. *How many pupils did you use MindAid in connection with?*

Please write how many in the box

1. *a) Did you use MindAid with a pupil present?*

Never

Rarely, in less than 10 % of the chances when I could have

Occasionally, in about 30% of the chances when I could have

Sometimes, in about 50% of the chances when I could have

Frequently, in about 70% of the chances when I could have

Usually, in about 90% of the chances I could have

Every time

Could you give reasons for your answer?

1. *b) Did you use MindAid when a student was not present but with a specific student in mind e.g. before or after a conversation with a student.*

Never

Rarely, in less than 10 % of the chances when I could have

Occasionally, in about 30% of the chances when I could have

Sometimes, in about 50% of the chances when I could have

Frequently, in about 70% of the chances when I could have

Usually, in about 90% of the chances I could have

Every time

Could you give reasons for your answer?

1. *I had enough time to use MindAid*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *I felt confident using MindAid by the end of the trial*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *The LISTEN function included appropriate questions*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *The Me & My Feelings Questionnaire was age appropriate*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *Please tick which LEARN sections you used and for each that you did use, rate how appropriate they were to your learning needs.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LEARN section** | **√** | **Strongly appropriate** | **Moderately approrpiate** | **Slightly Appropriate** | **Neither appropriate/in appropriate** | **Slightly inappropriate** | **Moderately inapprorpiate** | **Strongly inapprorpiate** |
| The worried child |  |  |  |  |  |  |  |  |
| Sad, bored or isolated |  |  |  |  |  |  |  |  |
| Eating problems |  |  |  |  |  |  |  |  |
| The Angry and Aggressive Child |  |  |  |  |  |  |  |  |
| Unexplained Physical Symptoms |  |  |  |  |  |  |  |  |
| Flashbacks, Trauma and Bullying |  |  |  |  |  |  |  |  |
| Wetting |  |  |  |  |  |  |  |  |
| Tics and Twitches |  |  |  |  |  |  |  |  |
| Substance Misuse |  |  |  |  |  |  |  |  |
| Avoiding school and social isolation |  |  |  |  |  |  |  |  |
| Sleeping Difficulties |  |  |  |  |  |  |  |  |
| Self-Harm and Risky Behaviour |  |  |  |  |  |  |  |  |
| Poor Concentration and Over activity |  |  |  |  |  |  |  |  |
| Loss and Grief |  |  |  |  |  |  |  |  |
| The Loner |  |  |  |  |  |  |  |  |
| Communicating with Families |  |  |  |  |  |  |  |  |
| Autism and Related Problems |  |  |  |  |  |  |  |  |

1. *MindAid was helpful in improving my knowledge and ability to identify and respond to mental health problems in my students*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *I would recommend MindAid to another teacher*

Strongly agree Somewhat Disagree

Somewhat Agree Disagree

Agree Strongly Disagree

Neither agree nor disagree

Could you give reasons for your answer?

1. *What improvements would you make to Mind*

**Appendix Q: Telephone Interview Schedule**

**MindAid Interview Questions**

**What is your role within the school?**

**How often did you use MindAid?**

***1.How have you used MindAid?***

* **For information?**
* **Phone/tablet/computer**
* **Have you used it in a particular scenario? Can you describe the scenario and how MindAid was useful in facilitating this? How could MindAid have been more helpful in this scenario?**
* **Did you use it before or after the discussion with the child? What was that like?**
* **Did it impact on the discussion with the child? / How did that impact upon the discussion with the child?**
* **Before using MindAid were there any other methods you used to address mental health problems? If so what? Would you use MindAid over the method and why?**

***2. What is your understanding of being able to recognise mental health problems?***

* **Do you think that has changed since using MindAid?**
* **What has helped you spot signs of difficulties like anxiety, stress, depression, eating problems?**
* **How do you think that has changed using MindAid?**
* **Was there any specific part of the app that was particularly helpful with this?**

***3. How has your general knowledge about mental health problems such as causes & protective factors developed since using MindAid***

* **What was it about the process of using MindAid that lead to the change?**
* **Would you say your knowledge has changed since using MindAid?**

***4.How has your knowledge about self-help and professional help options for young people with mental health problems developed?***

* **Would you feel more confident in referring a young person for additional help? Would you know what to do?**
* **Has your awareness of the referral pathways in your area grown?**
* **What was it about the process of using MindAid that lead to the change?**

***5.How have your views on mental health in young people and the support they might need changed since using MindAid?***

* **Have you noticed a change in conversation about mental health within the school and/or amongst colleagues?**

***6. Please share your perspective on how well this programme met objectives to train teachers to support young peoples’ mental health***

* **Impact on discussion with young person?**
* **Was the training engaging?**
* **Would you encourage other teachers to use the app?**

***7. How did you find the content of MindAid?***

* **Wast too basic/advanced**
* **Was anything unclear? if so what?**
* **Was everything relevant and applicable? Go through sections to prompt – LISTEN/SCREEN/LEARN/REFER / How were the functions relevant and applicable? How weren’t they?**
* **Was the content delivered in manageable amounts, or was it overwhelming? What was?**
* **Anything you felt was missing? / What was missing?**

***8. How did you find the interface of MindAid?***

* **Was the information presented well? / What was presented well/what wasn’t**
* **Was it easy to navigate or was it too confusing? How did you find navigating MindAid?**
* **Was the design appealing? What did you think about it’s design?**
* **Did the design effect how you used it? How did the design effect how you used it?**
* **What changes would you make? What would encourage you to use MindAid more?**

***9.Please share your perspective on the challenges whilst using MindAid (What didn’t you like about MindAid)***

* Was the information provided pitched at the right level?
* Was it easily accessible?
* What would you improve?
* What would add/felt was missing?
* Anything you found difficult?

***10. What did you like about MindAid?***

* **What has helped improve your practices?**
* **What did you use often?**
* **Did you find this method of providing information effective? Or would you prefer something else? – Why was it effective/not effective?**

***11. Based on your experiences, what ideas do you have to make this app more effective for teachers in the future?***

* **Different design?**
* **Any more information that would be helpful?**
* **Longer pre-training**

**Implementation**

What led your school to decide to agree to take part in the MindAid project? What was that process like?

What do you perceive the barriers and facilitators to implementing a mental health first aid programme within schools

& What has helped to introduce mindfulness in your school

& Which challenges has the school faced in introducing

mindfulness?

What needs to happen to make a tool like MindAid sustainable?

What resources might facilitate schools in implementing MindAid

As a program champion, what were the challenges?

**General prompt questions**

* That’s interesting.. Can you tell me more about what you meant by that?
* Could you say anymore
* Is there anything else you wanted to add to that?
* What was useful about that?
* Was there any specific part of the app that was particularly helpful for this? LISTEN/SCREEN/LEARN/REFER
* What do you mean when you say...

**Appendix R: Service user involvement feedback**

*Feedback on PIS and MindAid questionnaire*

|  |  |  |
| --- | --- | --- |
| Service user | Feedback survey | PIS |
| 1) | Questions look good and easy to understand/answer.  Question 9 will you be writing all of the options next to each question, or drawing a grid? I’m looking at my phone so formatting might be off) it would make it easier in terms of speed of answering!  In terms of the written responses, are you expecting much there, again not sure if it a psychological study tact!!! If not ‘Could you give reasons’ could be quite open ended. If your looking for more specific things maybe ask individual Questions eg 1) what were the barriers to using MindAid | I would lead with why the training is important section. If you want to hook teachers in give them the facts early on if the teachers can see why this is to important they will get on board.  What is MindAid?  I, like all teachers, are bloody nightmares for reading the whole thing, I’m more likely to scan read and big chunks of text don’t get read. Would you be able to break each subsection apart a bit eg  asy*to use and is comprised of four functions. This includes a*  ***Listen****- provides guidance on how to assess situations and gather the information you need to make an informed decision.*  ***Learn****- provides information about different mental health issues in bite size amounts.*  ***Screen****- allows you to complete ratings of difficulties using a questionnaire, helping you to identify young people with high levels of difficulties.*  ***Refer****- GPS localised, provides you with details of organisations that you can contact to get the appropriate advice or support needed.*  Screen shots are great, teachers will need to see how easy it is to use  The first section ‘what this sheet tells you’  Does that have to be there as a psychological study thing? If not teachers will be much less likely to read on if they think that have all the info from the introduction, I would consider shortening/deleting that paragraph |
| 2) | Have some time scales on the categories. Eg. Rarely (1-2 times etc) as  people's definitions of rarely/often etc are different so it would give you more accurate results |  |

*Consultation on retention and engagement of teachers throughout study (Information gathered from 4 teachers)*

* **Incentives for teachers**
* top three teachers could be entered into a prize drawer
* Send out email acknowledging top user
* **Sharing of best practice**
* Teachers to present effective use of the app at staff meetings e.g. someone that they had helped and how. Invite teachers to discuss afterwards
* **CPD**
* Provide certificates
* **MindAid champion**
* newly qualified teacher. Could run a CPD session on MindAid which they can then add to their CPD
* Head of Pastoral care
* **Useful teams/teachers to engage**
* pastoral managers
* head of house
* head of sixth-form
* safeguarding team
* Form tutors 🡪 seeing same students every day. often develop strongest relationships with students
* CAMHS link workers
* **involving students to have a whole school approach**
* **Strategies to promote to staff that it is there responsibility too. Thoughts that teachers can assume responsibility is elsewhere.**
* involvement of students

= Could deliver a presentation. Psychology students could put this on personal statement

= Could have it as an assignment as part of relevant lesson

* pastoral manager to jointly deliver initial training
* **Reminding staff**
* emails less effective
* through staff meetings or training sessions

**Approach and engagement of schools**

* **Head teacher and board of Governors**
* **MindAid as evidence of approach to mental health for Ofsted**

**MindAid Usability**

* Too active in class to use it as your teaching

STUDENT PERSPECTIVES (Information gathered from 4 students)

* **How teachers approach students**
* would prefer private space where no one is listening
* arrange a time to speak not catching someone off guard
* concerns about judgement from teachers or there opinion of you changing
* **Which teachers approach students**
* Needs to come from trusted teacher e.g. form tutor

*6iii) Feedback from CAMHS student advisory forum*

**Criticisms of the ‘Me and My Feelings Measure’**

* Far too broad. Needs to be more specific for example using a scale or someone suggested a measure which had …. in between each option which you could place a mark on.
* One person suggested putting all of the items onto one page instead of one item and then having to click. This is because if they were filling it in, they could see how much there was left
* If the young people were filling in the questionnaire, they felt that they would be put off by the items particularly the first one’s e.g. “Do you feel lonely”
* They also felt that the items were too vague e.g. “Do you ever feel unhappy” or “do you worry a lot?” because of course they feel unhappy sometimes but that doesn’t mean that it is an issue.
* Do we know that the questionnaire is definitely tailored to secondary school students?
* All the students highlighted that they would feel uncomfortable with the teacher filling this in without them because of the validity of their answers. One suggestion was to have one for teachers and one for students so any discrepancies could be highlighted
* We also discussed (also raised in pilot study) how it is difficult for teachers to answer these questions without student. One suggestion was to give teachers list of prompt questions to gather enough information from the student to fill it in.

**Teachers approach to speaking to students**

* A lot of the students highlighted mistrust towards teachers and therefore whether they would provide any information about their difficulties. This partly related to confidentiality and experiences where they had told teachers and they didn’t do anything about it. They also spoke about how important the setting of these discussions is and how they would feel very uncomfortable if a teacher came up to them after class without warning.
* Suggestions to overcome this was:
* for teachers to say at the beginning of the class about mental health problems and give students opportunity for them to come them at the end and then if the student hadn’t come to them within a few days to then approach them
* A problem box where students could anonymously write if they had a problem or if they were worried about someone else they could put it in the problem box, this then is already giving permission to go and talk to a student.

**Appendix S: Completed cases analysis results tables**

|  |  |  |  |
| --- | --- | --- | --- |
| Table 8. Completed cases repeated-measures ANOVA results for group comparison across T1 and T2 | | | |
| Outcome measure | F/Chi-Square | Df | *p* |
| MHLS | .007 | 1 | .935 |
| Vignette | .034 | 1 | .854 |
| RIBS | .371 | 1 | .802 |
| MAKS | 2.044 | 1 | .159 |
| ***Bold text:*** *Kruskall Wallis Test* | | | |
|  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 9. Completed cases Means (SD’s) for outcome variables at T1 and T2 for each group | | | | | | |
| Outcome measure | Intervention group | | | Control group | | |
| N | Mean | SD | N | Mean | SD |
| MHLS  Time 1  Time 2 | 30  30 | 128.967  131.767 | 12.283  12.754 | 25  25 | 129.120  132.120 | 12.531  12.125 |
| RIBS  Time 1  Time 2 | 28  28 | 16.964  15.714 | 3.024  3.029 | 25  25 | 16.680  17.280 | 3.532  3.434 |
| MAKS  Time 1  Time 2 | 26  26 | 24.115  23.885 | 3.847  2.747 | 24  24 | 24.375  24.417 | 3.132  2.933 |
| Vignette  Time 1  Time 2 | 28  28 | 62.214  65.393 | 9.429  9.62 | 26  26 | 63.385  70.462 | 8.954  7.57 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 10. Completed cases paired t-test significance levels for pre/post intervention comparison | | | | | | |
| Outcome measure | Intervention group | | | Control group | | |
| t/Z | df | *p* | t | df | *P* |
| MHLS | -1.541 | 29 | .134 | -1.543 | 24 | 0.136 |
| RIBS | -.175 | 27 | .861 | -.1.43 | 24 | 0.153 |
| MAKS | -.413 | 25 | 0.683 | -.072 | 23 | 0.944 |
| Total Vignette | -2.021 | 29 | 0.070 | 4.732 | 25 | <0.05\* |
| *Note. \*p < 0.05 significance level*  ***Bold text****: Wilcoxon test* | | | | | | |

**Appendix T: MindAid feedback questionnaire full results**

|  |  |  |
| --- | --- | --- |
| Table 11. Frequencies and percentages of the MindAid feedback questionnaire | | |
| Questionnaire item | Frequency  N=43 | Percentage  N=43 |
| How often did you use MindAid? (usage)  Never  Rarely (less than once a month)  Once a month  1-2 times a week | 11  22  6  3 | 26  52  4  7 |
| How often did you use MindAid with a student present?  Yes  No | 12  30 | 28  71 |
| How many pupils did you use MindAid in connection with?  0  1  2  3  6  Don’t know | 29  4  6  1  1  1 | 69  10  14  4  4  4 |
| How often did you use MindAid with a student in mind?  Never  Rarely  Occasionally  Sometimes  Frequently  Every-time | 26  6  1  1  1  1 | 62  14  4  4  4  4 |
| I had enough time to use MindAid  Agree  Neither agree nor disagree  Disagree | 10  9  23 | 24  21  55 |
| I felt confident in using MindAid by the end of the trial  Agree  Neither agree nor disagree  Disagree | 24  11  7 | 57  26  16 |
| MindAid was more useful as a digital resource than as a paper-based resource  Agree  Neither agree nor disagree  Disagree | 30  11  1 | 71  26  2 |
| MindAid improved my knowledge and ability to identify and respond to mental health problems in my students  Agree  Neither agree nor disagree  Disagree | 29  11  2 | 69  26  5 |
| I would recommend MindAid to another teacher  Agree  Neither agree nor disagree  Disagree | 35  4  3 | 83  10  7 |

**Appendix U: Interview transcript coding example**

**A screenshot of a cell phone

Description automatically generated**