The development and validation of a measure of school-related psychological wellbeing

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PhD

2023

The development and validation of a measure of school-related psychological wellbeing

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A thesis submitted in partial fulfilment of the requirements of the University of Northumbria at Newcastle for the degree of Doctor of Philosophy

Research undertaken in the Faculty of Health and Life Sciences

May 2023

Author's declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by Northumbria University's Health and Life Sciences ethics committee.

I declare that the Word Count of this Thesis is 47,767 words.

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Date: 12.12.2023

A huge thank you to the schools and families who generously gave their time to contribute to the findings of this thesis. Without you all, this research would not have been possible.

Abbreviations

SEN – Special Educational Needs

MHD – Mental Health Difficulties

SEMH – Social Emotional Mental Health

TD – Typically Developing

UK – United Kingdom

SBMH – School Based Mental Health

CYP – Children and Young People

PWB – Psychological Wellbeing

ASD – Autism Spectrum Disorder

Abstract

Mental health problems among children and young people in mainstream schools have been a cause for concern for some time and are also known to be prominent among children with SEN, who face exacerbated challenges in relation to their education. As such, a number of interventions are available for schools to utilise to tackle the challenge of mental health difficulties within the setting. Despite this, mental health difficulties within schools are increasing and should be identified at the earliest possible opportunity in order for interventions to have their optimum effect. Whilst there are a number of measurement tools available to measure general anxiety, depression, and well-being, no measurement tool exists that is based on factors directly linked to mental health within the educational context and is also inclusive to those with SEN. The overall aim of this thesis is to design and validate a new measure of SBMH with inclusivity to those with SEN.

Chapter One provides an insight into the area of mental health within mainstream schools in the UK. Chapter Two then systematically reviews the literature on the factors associated with SBMH. The results found that there are six main factors associated with SBMH: belonging and inclusion, relationships with teachers, academic attainment, socioeconomic status, whole-school approaches, and individual differences. Chapter Three then reports on qualitative data collected from pupils, parents, and teachers in relation to their views on SBMH, both pre- and post- the Covid-19 pandemic and associated school closures. This study found that social relationships and academic attainment are key contributors to SBMH. Chapter Four then explores the discussions between parents on an online forum in relation to schools in the UK, finding that parents often discuss topics falling under the following themes: individual differences and status, behavioural adversities, and relationships and environment.

Chapter Five focuses on the development of a new measurement tool for SBMH, which was designed based on literature and empirical findings in relation to both TD pupils and pupils with SEN. The chapter reports on the piloting of the tool and captures the opinions of relevant stakeholders, ultimately resulting in the Mental Health in Schools Questionnaire (MHISQ) being developed for validation in mainstream primary and secondary schools in the UK. The chapter finalises with a report

on the psychometric properties of the tool. Chapter Six then considers the findings of this thesis in the context of the wider literature and considers implications for practice and future areas for research.

Overall, this thesis makes a significant, novel contribution to the literature by identifying school-based factors of mental health and creating the first-known measurement tool for SBMH, inclusive of TD pupils and pupils with SEN. The measurement tool is based on a substantial body of literature, as well as the perspectives of potential stakeholders.

Contents: Chapters, sections, sub-sections

Contents: Tables and figures

0.0 Acknowledgments

Firstly, I would like to say a massive thank you to my supervision team and colleagues at Northumbria University. To my principal supervisor Karen McKenzie, your unwavering support, patience, and kindness throughout this process have helped me to make this thesis what it is today. Thank you for guiding me through this process and for teaching me so many invaluable skills that I now use every day. I would also like to thank my co-supervisor Kris McCarty, not only did you provide your extensive knowledge for this thesis, often saving me from a small crisis, but you have provided a wealth of guidance in my career that has enabled me to be where I am now. Also, a huge thank you to the fantastic people who have supported me throughout these hectic few years. Amy Newman, Sarah Docherty, Anna Maughan, Scott Houghton, and the rest of my brilliant friends and colleagues, you have been nothing short of amazing.

Second, I would like to say a massive thank you to my family. My parents, Joanne and Steven, have both supported me through every step of my education and have helped me to see the bigger picture, even when it may not have been easy to do so. I am very glad that I will no longer worry you both about my stress levels and high blood pressure. Thank you both for always going above and beyond for me. To Joanne McKenzie, Ian Bulch, Maria Arceri, Vincenzo Arceri and the extended Arceri- family. Raising my two daughters alongside this journey would have been much harder without you all, I will be forever grateful for all your help through the late nights and early mornings, and also for the extensive emotional support you have all provided.

Finally, to my two incredible daughters, Harriet and Imogen, who I hope will see inspiration in this journey when they are grown. I have had the privilege of raising you both in your youngest years throughout the process of this PhD and, whilst it may not have always been easy, you have both helped me through it in ways I will never be able to fully explain. Unfortunately for you both, you will be made to read this when you are older!

Thank you.

1.0 Introduction

1.1 Terminology used in the thesis

There is a large body of research in relation to developmental and MHD experienced by children and adolescents. As a result, different terms with similar meanings are used in the literature. The terminology used can also vary between countries and within the same country according to the setting or profession. Several of these terms will be used throughout this thesis and, therefore, an overview of the definitions, settings, and countries within which they are commonly used is provided in Appendix 1. For the purpose of the thesis, the term SBMH will be adopted as an umbrella term that covers psychological well-being and emotional well-being. The term MHD will refer to general symptoms of poor mental health, as a general statement as opposed to within the school context.

1.2 Mental Health and Education in the United Kingdom

Children and young people (CYP) face a range of challenges throughout their development (Backes & Bonnie, 2019). One significant area of concern is MHD with the prevalence in the UK having risen from one in nine children being affected in 2017, to one in six in 2021 (Young Minds, 2021). MHD can have both short and long-term negative consequences, and, in the school context, children with MHD are known to be more at risk of higher rates of school absenteeism (Lawrence et al., 2019) which can impact their learning outcomes (Hancock et al., 2013), poor achievement (Bräannlund et al., 2017) and increased drop-out rates (Lindhardt et al., 2022). In the longer term, poor mental health has been shown to be linked with unemployment, violence, substance misuse, poor social functioning, suicide, and lower quality of life in adulthood (Patel et al., 2007). On the other hand, positive mental health and well-being are associated with the development of a healthy lifestyle (Thomas et al., 2020), positive social relations (Ford et al., 2011), and reduced risk of psychiatric disorders (Iasiello et al., 2019).

Such findings have been consistent over the past few decades, with early research similarly finding that poor mental health was a contributor to academic and social problems (Wallach, 1994), leading to a difficult cycle for children to break (Aviles et al., 2006). Despite the extensive

identification of this problem, MHD amongst CYP and within the school context has worsened over the years and is now considered a key challenge in public health (Patel et al., 2007).

Schools are considered one of the main institutions within which to promote positive mental health among CYP, due to the substantial amount of time they spend there (Fazel, 2014). The World Health Organisation (2022) has recommended that schools should include activities that promote mental health, such as regular social and emotional education for students, as well as developing whole-school approaches. Schools are developing their own approaches to tackle MHD, such as implementing mental health-based activities within the classroom, including activities, such as yoga, and mindfulness techniques, and providing mental health workshops to pupils and staff (Tomé et al., 2021).

Most schools appear to acknowledge their position in promoting positive mental health, as well as responding to MHD (Headley & Campbell, 2013) and schools participate in both government-funded and voluntary sector interventions such as Place2Be, parenting interventions, and whole-school initiatives (Corboy & McDonald, 2007; Hoover Dempsey et al., 2005). However, research suggests that some teachers do not feel equipped to appropriately and effectively deal with poor mental health among children and adolescents (Askell-Williams & Lawson, 2013) and struggle to discern between MHD and emotional and behavioural difficulties (Rothi et al., 2008). Others report lacking an understanding of how to respond to MHD and uncertainty about whether their responses were appropriate (Dowling & Doyle, 2017). Furthermore, despite many school-based interventions being available, MHD among pupils in primary and secondary schools are increasing (NHS Digital, 2020). Such difficulties have also been exacerbated as a result of the COVID-19 pandemic, with a reported increase in self-harm, loss of motivation and hope for the future, panic attacks and anxiety symptoms (Young Minds, 2021). This is discussed further below.

There are several known school-related factors that can influence mental health, such as pressure to achieve academically. The national curriculum was introduced in the UK in 1988, in the context of many young people leaving school with no qualifications in prior years. Subsequently, prescriptive standards and national testing were introduced (Whetton, 2009). The current examination

standards within the UK are for children to take Standardised Assessment Tests (SATs[1]) in Years Two and Six, along with General Certificate of Secondary Education (GCSEs[2]) tests in Year 11. Alongside this, schools are expected to implement phonics screening for children in Year One and a times table knowledge test in Year Four (Department for Education, 2022). Coinciding with the increase in testing, levels of stress amongst school staff and academic stress amongst students are rising. In a survey of school leaders conducted in 2017, eight out of 10 reported experiencing an increase in mental health issues amongst primary school children around the time of SATs. Symptoms of this academic stress include anxiety, depression, and panic attacks and it is also noted that children experience an increase in fear of academic failure around the time of exams (Weale, 2017). For pupils in secondary schools, a wide range of academic demands can be experienced, and this can lead to academic-related stress and pressure to achieve high marks (Pascoe et al., 2020).

Further to academic stress, individual circumstances, such as bullying and friendships, are known to affect the mental health of children within primary and secondary schools (Gutman & Feinstein, 2008). Friendships are known to reduce stress among children and adolescents and can help them to develop the capacity to maintain friendships in future years (Geisthardt et al., 2002). On the other hand, being bullied in childhood has the potential to lead to long-term negative effects, including depression in adulthood, suicidal thoughts, and self-harm (Sigurdson et al., 2015; Undheim & Sund, 2010).

1.3 The Impact of COVID-19 on Education in the UK

In March 2020, prolonged school closures occurred across the UK, as a result of the Coronavirus pandemic (COVID-19), and only children who were deemed as vulnerable or those of key workers were able to attend. Each of the four governments in the UK published different 'roadmaps' as a response to the pandemic. England saw changes in the outlined procedure for pupils returning to schools after the first wave of Coronavirus. Nurseries and early years providers were able to reopen

[1] Standard Assessment Tests (SATs) are standardised tests to measure the educational achievement of school pupils in Years 2 and 6. Pupils are required to sit both maths and English SATs.
[2] GCSEs (General Certificate for Secondary Education) are standardised tests used to measure the educational achievement of secondary school pupils. Students are required to sit exams in the three core subjects: English, maths and science, amongst a variety of other optional subjects.

from 1 June (along with some Reception, Year One, and Year Six pupils) and schools were able to open for Year 10 and Year 12 pupils from 15 June. However, the government's plan of having all school children back to school for one month before the summer was dropped and instead it was decided that all children would return after the summer holidays. During this time, there were concerns about the impact that the school closures would have on social interaction between children and their peers and significant adults, such as their families and teachers, with research suggesting that prolonged periods of social isolation is detrimental to the social and cognitive development of CYP (Lee, 2020; Orben et al., 2020). The assumption was also made that the loss of valued activities, such as after-school clubs and generally travelling to school, would increase levels of anxiety among those affected (Kneale et al., 2020).

In terms of mental health, for those children who experienced MHD before the pandemic, school closures meant a lack of access to much-needed sources of support, including teachers, peers, and health practitioners (Lee, 2020). Research during the early stages of the pandemic suggested that CYP showed more symptoms of MHD in comparison to earlier data (Racine et al., 2020). It has been noted that children with SEN would also have experienced different educational challenges compared to TD children, such as missing large aspects of online learning due to more limited attentional capacity. This was particularly the case for children with working memory problems, such as Dyslexia or Dyscalculia (Walters et al., 2022), who may have been at a disadvantage due to such diagnoses being associated with poor performance in mathematics and reading (Kyttälä, 2008). More recently, Walters et al. (2022) have stressed the importance of understanding the challenges which children with learning difficulties (hereafter LDs) may have faced when transitioning from classroom-based to online learning. Their study, which was based in the UK, found that students' self-reported concentration, engagement, and ability to learn were significantly lower during the period of the pandemic when online learning was common, and that this had a negative impact on their mental health.

At the time of writing this thesis, COVID-19 restrictions have ended and schools are largely operating as they were pre-pandemic. However, the academic attainment gap between advantaged and disadvantaged pupils is still present, and the Department for Education (2022) reported a continuous

drop in attendance rates across schools in the UK, ultimately contributing to fluctuating levels of knowledge in mathematics, phonics, reading, handwriting, languages, and physical education. Despite the evident loss in learning, both GCSEs for Year 11 and SATs for both Years Two and Six continued as normal in the Summer of 2022. It is important to note that, pre-pandemic, both sets of standardised testing were seen as contributors to poor mental well-being among CYP, due to increased exam stress and the worry of underperformance (Connor, 2003; Roome & Soan, 2019).

To summarise, whilst the pandemic and associated school closures had some positive consequences for some children, such as an increase in family time (Barrett, 2020) and a reduction in academic pressure due to better management of school tasks (Soneson et al., 2022), for many it had a significant negative impact on their academic attainment, social interaction, and mental health. In recognition of this, it could be suggested that the factors associated with the mental health of CYP differ post-pandemic and it is important to gain an understanding of the contributors to inform future interventions. It is also of particular importance to gain an understanding of the factors associated with poor mental health concerning children with SEN in mainstream schools, as research indicates that their needs in relation to academic attainment and social relationships may be exacerbated by difficulties they face in light of their diagnosis, such as working memory and concentration problems.

1.4 The challenges children with Special Educational Needs and Learning Difficulties face in mainstream schools

The inclusion of children with SEN in mainstream classrooms has become a global trend (Pijl et al., 2008; Ruijs & Peetsma, 2009) and is the result of the UN Convention on the Human Rights of Persons with Disabilities guaranteeing the right of people with disabilities to an inclusive education system on all levels (United Nations, 2006). In line with this, the proportion of children with SEN attending mainstream primary and secondary schools in the UK has increased over the last 30 years (Thomas & Vaughan, 2006). There are several consistent patterns within the literature describing the difficulties children with SEN may face in mainstream schools. Such difficulties are outlined in this section, and include limited teacher engagement, struggles with the mainstream curriculum, and difficulties in social situations.

The increase in the number of children with SEN in mainstream schools has been accompanied by an increase in support staff, often referred to as teaching assistants (hereafter TAs). As of the latest data in 2021, the number of full-time TAs in mainstream primary and secondary schools had risen by 24.5% since the year 2011 (Department for Education, 2022) and accounted for 28.4% of the school workforce. Primary school head teachers have reported that the main benefit of having such support staff is that it allows for the inclusion of pupils with high levels of SEN and that running schools without TAs for these pupils would be impossible (Blatchford et al., 2012). It is known that TAs spend most of their time supporting lower-attaining pupils and those with SEN (Blatchford et al., 2012). This is favoured by teachers as it allows them time to teach the rest of the class, whilst struggling children get pivotal individual attention from TAs (Webster et al., 2015). However, it has been reported that children with SEN are disadvantaged as a result of this, and large amounts of time spent with TAs consequently leads to spending less time with their class teacher and interacting with the school curriculum, something which sets them aside from their peers (Blatchford et al., 2012; Webster et al., 2013). It is also a concern that TAs do not provide the same quality of teaching as that provided by the main class teacher, with Croll and Moses (2000) reporting that children with SEN were spending a lot of their time with someone who is not a trained teacher. Further to this, Ofsted (2006) note that using TAs as the main form of provision for children with SEN in mainstream schools means the pupils are less likely to make good academic progress as compared with those who receive specialist teaching in schools.

Children with SEN and LDs experience lower educational attainment during their school years in comparison to their TD peers and this can have long-term consequences into adulthood in terms of academic fulfilment, such as a lack of qualifications (Jones, 2010), and poorer job prospects (Loprest & Maag, 2007). Whilst the key aspiration of educational policy in the UK is to ensure the diagnosis of SEN enables children to access the learning support they need in school, the DfE (2022) reports that children with SEN in England make substantially less progress during the age of seven and 11 than TD pupils.

As previously mentioned, children in mainstream schools in the UK are expected to take compulsory tests at certain intervals as a means of assessing their academic progress. These occur in

Years Two, Six and 11 (Department for Education, 2022) and, although children with SEN can access special measures, such as readers and extra time for such tests, Parsons and Platt (2017) argue that it is not appropriate to expect children with SEN to make the same rate of progress as their TD peers. Evidence from the Department for Education (2013) indicates that educational outcomes for children identified with SEN can be poorer than those for TD pupils at different points throughout their education. It is reported that 23% of children with SEN, in comparison to 68% of TD pupils, achieved a 'good level' of development in the Early Years Foundation Stage Profile. Further, 45% were classed as 'working towards' the expected standard at Key Stage 1, in comparison with just 4% of TD children, and, in Key Stage 2, 47% of children with SEN were making expected progress, in comparison to 94% of TD children.

Alongside academic achievement, the literature demonstrates that children with SEN are also at a disadvantage in terms of social participation, engagement, and acceptance by their peers. The term 'social participation' is used as an umbrella term in the literature and relates to how an individual exhibits engagement in activities, feelings of belonging, and social interactions (Eriksson & Granlund, 2004). In a review of the literature conducted by Koster et al. (2010) in the context of a primary school, four dimensions of social participation in inclusive classrooms were outlined: 1) the acceptance of pupils with SEN, 2) the pupils' perceptions of their acceptance by the classmates, 3) the presence of positive social interactions between pupils with and without SEN, and 4) social relationships and friendships. Whilst social participation, and thus acceptance, may be a natural process for most TD children, those with SEN often face significant struggles in forming and maintaining friendships (Kouvava et al., 2022). A number of studies have illustrated that children with SEN are more frequently rejected and less well-accepted by other children than their TD peers (Avramidis, 2013; Nepi et al., 2015). This is evident both at break times and in the classroom (Cambra & Silvestre, 2003). It is believed that the social acceptance of children with SEN depends upon their social behaviour (Avramidis, 2013; Schwab et al., 2015) thus, children with behaviour difficulties are known to be at greater risk of peer rejection than pupils with learning difficulties or motor and/or sensory disabilities (Avramidis, 2010; Krull et al., 2014). In relation to social interactions, several studies have shown that pupils with SEN are less involved in the process than TD children, this is

especially so for those with Autism Spectrum Disorder (hereafter ASD) and intellectual disabilities (Hestenes & Carroll, 2000; Koster et al., 2010). Ultimately, it is noted that children with SEN in preschool and primary school have fewer friends than their TD peers (Odom & Diamond, 1998).

It is also important to note that a developing body of research consistently reports higher rates of mental health problems amongst children with SEN in comparison to TD children (Deighton et al., 2019), with 36% of children with SEN displaying symptoms of defined psychiatric disorders, in comparison to 7% of TD children.

The literature outlined above indicates that children with SEN can experience exacerbated difficulties in mainstream schools, as compared with their TD peers. They may be missing out on engagement with their class teacher and with the mainstream curriculum, yet still be expected to sit the same standardised assessments as their TD peers. Children with SEN are also at a higher risk of experiencing difficulties with peer interactions and social situations. Despite this, there is only limited research into how the mental health of this group of children is affected in mainstream schools.

To summarise, given that the literature suggests peer relationships, teacher relationships, and academic attainment to be key contributors of MHD, and that children with SEN face increased difficulties in these areas, it could be suggested that such children are at a higher risk of developing MHD. Very little research has, however, been conducted into this, creating a clear gap in knowledge. The second chapter of this thesis will provide an overview of the school-based factors associated with mental health, both pre- and post- the COVID-19 pandemic, inclusive of both TD children and children with SEN.

1.5 School-based interventions to address mental health difficulties

Given the nature of schooling in the UK, and the substantial amount of time a child spends in the school environment, it is reasonable to believe that schools are an ideal setting in which to identify those children who are at risk of poor mental health (Humphrey & Wigelsworth, 2016). Mental health-based activities and training for staff (Tomé et al., 2021) are known to be popular in tackling the awareness and prevention of poor mental health (Durlak et al., 2011; Weare & Nind, 2011). In addition to this, evidence has suggested that well-designed and implemented school-based interventions show positive mental health outcomes for students, such as a boost in self-esteem and

confidence (Adi et al., 2007; Durlak et al., 2011), with Durlak et al. (2011) showing that participants who receive interventions demonstrate significantly improved social and emotional skills, attitudes, and academic performance.

Interventions have been trialled across schools in the UK and include Cognitive Behavioural Therapy (hereafter CBT), positive psychology, mindfulness, and mental health education (Mackenzie & Williams, 2018). Whilst some researchers argue that there is a lack of convincing evidence for the effectiveness of interventions, due to not including a control group or studies being underpowered (Attwood et al., 2012), there have been some favourable results. One study conducted across three large secondary schools in South London found that participants demonstrated significantly lower levels of depression and anxiety after completing a course of online CBT, which included online lessons with animations, videos, and interactive exercises (Smith et al., 2008). Another successful intervention in the South-West of England focused on helping children to develop emotional awareness and regulation skills by delivering nine lessons to children aged 10. The sessions were delivered by trained health facilitators or teachers and a clinically significant decrease in anxiety was shown (Stallard et al., 2014). Further, one study conducted in primary schools in Scotland (Collins et al., 2014) found that teaching children how to recognise their own emotional symptoms and where to seek support helped to lower anxiety. This intervention was conducted through lessons taught by psychologists and teachers and included activities such as breathing, muscle relaxation, and visualisation.

Despite some positive findings, the success of an intervention is heavily influenced by both organisational and personal factors including the culture of the school, leadership, and teacher capability (Rowling, 2009) and, despite mental health training and interventions being available, teachers still report feeling ill-equipped to deal with mental health issues in schools (Andrews et al., 2014).

In 2015, the Department for Education released the *Future in Mind* strategy document, which argued for improvements in the early identification of poor mental health and well-being, in order to prevent the exacerbation of problems. In relation to this strategy, Mind Ed was also launched by the Department of Health and the Department for Education, which saw the implementation of a web

portal designed to help adults working with children to identify poor mental health at an early stage. Although the assessment is easily accessible for practitioners, Humphrey and Wigelsworth (2016) report that models for the assessment and identification of poor mental health are still inefficient, resulting in under- or late- referral.

A number of referral processes have also been proposed to address poor mental health. One, known as the 'refer-test-place' (Dowdy et al., 2010) is a process whereby a child with possible poor mental health is referred to a professional, such as an Educational Psychologist or GP, who will then assess their needs and deliver advice regarding the next steps. A lack of funding in child mental health services, due to government cuts in two-thirds of Local Authorities since 2010 (Young Minds, 2014), has, however, led to many schools being left to manage mental health issues (O'Hara, 2014). Another model, known as the 'wait to fail model' (Glover & Albers, 2007), is a referral process which involves the Psychological Well-being (hereafter PWB) of children and young people coming to the attention of an educational or health care professional as the result of a crisis, such as contact with the criminal justice system or exclusion from school. This particular process has been criticised by researchers, with the suggestion that CYP experiencing challenges in relation to their mental health and education do not receive help as soon as their difficulties are recognised (Richards et al., 2007). It is also a concern that CYP are subject to late diagnoses of SEN as referrals are only made when the pupil has failed to learn over a period of time (Vaughn & Fuchs, 2003).

As it stands, there is a clear need for the implementation of an effective measure of mental health in relation to school-related factors, which is based on empirical research in the field. This need is more prominent than ever due to the decline in mental health amongst CYP as a result of the COVID-19 pandemic. It is also reported that teachers still feel ill-equipped to deal with MHD amongst pupils, highlighting the importance of teacher involvement in the creation of such measures.

1.6 Early identification of school-based mental health difficulties

Brief assessment, or screening, of whether a pupil is at risk of poor mental health would help facilitate early identification and intervention (Dowdy et al., 2010; Dvorsky et al., 2014; Glover & Albers, 2007). Early screening could help identify indicators of poor mental health before they reach clinically significant levels that require specialist input from mental health professionals. It is

suggested that screening methods may be strengthened by the involvement of parents, teachers, and the pupils themselves (Wigelsworth & Humphrey, 2016).

Dvorsky et al. (2014) report three main benefits of having a screening system in place. First, all pupils would have access to the assessment, theoretically lowering the risk of pupils being overlooked as a result of a lack of understanding of mental health amongst professionals in school systems. Second, the screening would provide a baseline for future monitoring, meaning a more data-driven approach can be adopted in schools that would be easily accessible for practitioners. Third, the cost savings offered by a screening measure can be significant over time and can thus reduce the cost of referral to professionals.

In order to be effective, any screening tool must be evidence-based and have good psychometric properties. Humphrey and Wigelsworth (2016) outline some of the issues to consider, as set out below:

1.6.1 Social validity

This refers to the value and importance given to the assessment by both direct and indirect consumers (Hurley, 2012). In terms of a SBMH assessment, teachers, school staff, pupils, parents, and external education practitioners should be included in the process of the design. It is also important that the assessments are inclusive to all children within the setting, including those who face MHD or educational struggles due to a diagnosed SEN, this is due to their needs potentially being different, or heightened, in comparison to their TD peers.

1.6.2 Acceptability and feasibility

There are several concerns regarding the concept of using screening to prevent poor PWB and promote positive well-being amongst children in relation to the acceptability of the results. Williams (2013) reported that children may be stigmatised as a result of the process and there could be cases of false positives, in which a screening instrument puts a child in the at-risk category unnecessarily. Using a measure that has good levels of specificity and sensitivity (see below) can help reduce false positive and false negative results. Good screening measures should minimise the time and other resources required to use them. Dvorsky et al. (2014) suggest that measures that are time and cost-

effective are better suited to schools and are more likely to be adopted as part of a whole-school approach. Further, Zuckerbrot et al. (2007) highlight the importance of measures being completed in 5 minutes or less.

1.6.3 Informants

Dvorsky et al. (2014) report that a fundamental consideration in designing screening processes is who provides the information. There is currently a call for more focus on the child's perspective of mental health (Department of Health, 2015) and this aligns well with child self-report measures. It is said that children as young as seven are able to report their mental health (Franziska et al., 2022). Younger children and those with SEN may provide less reliable responses due to difficulties understanding and labelling their thoughts, feelings, and behaviours (Van Roy et al., 2008).

Teachers are often the primary informants when it comes to completing SBMH assessments (Dowdy et al., 2010), as they observe the children's behaviour on a regular basis. However, there are limitations with this approach, one being that teachers may struggle to accurately respond in relation to a particular pupil due to the number of pupils under their daily care. It is also suggested that teachers are less accurate at identifying internalising difficulties, such as poor mental health and emotional distress (Papandrea & Winefield, 2011), than externalising problems, such as physical abuse (Atzaba-Poria et al., 2004).

Parents are also able to provide information about their children's behaviour and mental health but tend to have a limited understanding of their behaviour within the school context (Wigelsworth et al., 2010). As such, they are able to provide information regarding externalising problems but may lack an understanding of internal emotional difficulties. It is for this reason that a multi-informant approach is recommended (Humphrey & Wigelsworth, 2016).

1.7 Psychometric properties of measurement tools

It is also important for screening measures to have good psychometric properties (Souza et al., 2017). Some of the main properties to consider are briefly outlined below and are explored in more detail in Chapter Five.

1.7.1 Reliability

The stability of a measure over time can be assessed using the test-retest method, in which the measure is completed on two separate occasions by the same informant (Polit, 2014). Test-retest reliability can reduce when the period between assessments is prolonged, and a period of 10 to 14 days is considered desirable (Keszei et al., 2010) with a minimum number of 50 participants (Terwee et al., 2007). Furthermore, inter-rater reliability measures the extent to which different respondents assign the same score to the same variable, or item, on an assessment (McHugh, 2012). The kappa statistic is often used to measure inter-rater reliability, and a result of 0.41 – 0.60 is classed as adequate (Cohen, 1960; McHugh, 2012). Finally, internal consistency assesses whether the individual items within a measure assess the same construct (Streiner, 2003). This is often measured through Cronbach's alpha coefficient (Keszei et al., 2010; Streiner & Kottner, 2014), with values higher than 0.7 being classed as 'adequate' (Terwee et al., 2007, van den Heuvel et al., 2016).

1.7.2 Validity

Assessing the validity of a measure is also important (Kezsei et al., 2010) and allows the researcher to check whether the tool measures what it should (Mokkink et al., 2010; Roberts & Preist, 2006). There are several types of validity that are deemed important when creating a measure, these are: content validity, face validity, and convergent validity.

Content validity allows for the measurement of how relevant the items on the assessment instrument are to the targeted construct (Haynes et al., 1995; Rossiter, 2008) and there are several ways in which this can be measured. One popular procedure in measuring content validity is the Delphi method, in which experts and informants assess the importance of the items on a measure in relation to measuring a particular construct (Jobst et al., 2013). Commonly, the experts in question rate the relevance of the items for the construct on a rating scale (Haynes et al., 1995), with 70% agreement on the relevance of a particular item commonly being used as a cut-off to include it in a measure (Sireci, 1998). Further, face validity assesses the extent to which an assessment reflects what is intended to measure (Nunnally, 1994) or the degree to which respondents judge the items of an

assessment instrument to be associated with a target construct and assessment objectives (Allen & Yen, 2001: Nevo, 1985) for example by rating the items on a scale (Nevo, 1985).

Lastly, construct validity can be defined as validating how well a measurement tool assesses what it is supposed to and convergent validity is a subtype of construct validity which measures the extent to which responses on an instrument have a relationship with responses on a conceptually similar test or instrument (Abma et al., 2016; Carlson & Herdman, 2012). Convergent validity can be assessed by how strongly the items of one assessment correlate with another which assesses the same target construct. Convergent validity is considered to be adequate if the correlation is >0.50 (Abma et al., 2016).

1.7.3 Sensitivity and Specificity

Sensitivity and specificity contribute to the understanding of how highly-validated a measurement tool is. Sensitivity allows for the assessment of how accurately a measurement tool identifies participants known to be at risk of an outcome, such as poor mental health. Specificity outlines how often a measurement tool accurately rules out participants not at risk of such outcomes (Trevethan, 2017).

1.8 Existing screening tools to measure school-related mental health difficulties

Despite the potential benefits, implementation of mental health screening is still rare in schools (Soneson et al., 2018). This may be because of the stigma associated with MHD (Dowdy et al., 2020; Evans-Lacko et al., 2014). There are currently a number of measures of general child and adolescent mental health. A systematic review by Deighton et al. (2014) reports on the psychometric properties of 11 self-report tools that are considered by the authors to be suitable for use in child and adolescent mental health services. There are, however, few measures that have been designed to focus on SBMH and which have been specifically validated for use in school settings.

To the knowledge of the author, there are currently only two measurement tools which include items focused on experiences in schools and one measurement tool which is a specific school-based measure of mental health. Descriptions, psychometric properties, and the limitations of each measure can be found in Table 1.

Table 1. Information on current measurement tools of mental health

Measurement tool	Description	Psychometric properties	Limitations of the measurement tool
Generic Children's Quality of Life Measure (GCQ) (Collier et al., 2000)	The GCQ measures the quality of life of children and is validated for the ages 6 to 14 years. The measure can be used with the general population and also children who have specific health or social difficulties. It focuses on the areas that are of interest to children, including families, peer relationships, and school.	Good Cronbach's α for perceived-self scale, preferred-self scale and quality of life scale (α = 0.74, 0.84, 0.78, respectively) Content and face validity was guided by Eiser's (1994) investigation of what children mean by quality of life and the items included are based on what children believe affects their quality of life. Construct validity was measured through the assumption that quality of life correlates to satisfaction with life. A correlation of .50 between the two supported this.	This measure was developed in the 1990's and there are a minimal number of school-related items which focus on friendships and teacher relationships. Not validated for children with SEN.
Pupil Attitudes to	The PASS assesses how students feel about their	Feelings about school and Preparedness for learning sub-scales showed excellent Cronbach's α (α = 0.82, α = 0.90, respectively).	Internal consistency is only reported for two sub-scales.

Self and School (PASS)	school and themselves and includes nine sub scales across three levels: connectedness, self-efficacy, and motivation. The measure was designed with consideration to the American education system and is appropriate for kindergarten to Grade 12.		No information is available on the recruitment process or any other psychometric properties. It is unknown how the items were selected and whether the measurement tool has good face and content validity. Not free for use.
Me and My School Questionnaire (M&MS) (Deighton et al., 2013)	The M&MS is a free-to-use, short, self-report measurement tool which assess emotional and behavioural difficulties. It is validated for children aged 8 and over	Cronbach's α for the two scales was good (behavioural difficulties for years 4 and 7 α = 0.78 and 0.80; emotional difficulties for years 4 and 7 α = 0.72 and 0.77). Construct validity was high between the M&MS and the Strengths and Difficulties Questionnaire for both the emotional and	The measure was validated for children aged 8, 9, 11 and 12. No consideration was given to children with SEN but most children had slightly lower than average academic attainment and slightly elevated levels of deprivation.

	behavioural scales (r = .67 and r = .70, respectively). Discriminant validity was also good.	Construct validity was only conducted for children aged 11 and over. Reliability of the measure was not established.

To conclude, as outlined in Table 1 there are some limitations with all of the current school related MHD measurement tools available that need to be addressed. There is a clear need for an evidence-based measure that is developed specifically for use in schools, which is appropriate for children with and without SEN, and is based on the views of pupils, parents and teachers about the issues that are most relevant to school-based mental health both pre and post the Covid-19 pandemic. Such a measure should have good psychometric properties and be able to accurately identify those who are and who are not likely to have MHD.

1.9 Aim and thesis outline

This PhD thesis aims to improve the understanding of specific school-related factors that affect mental health amongst children and adolescents, inclusive of those with SEN. Specifically, this thesis intends to design and validate a measure of PWB directly associated with school-based factors which is inclusive of children with SEN within mainstream schools.

This thesis contains six chapters, with the specific aim of each chapter outlined in detail. The following sections of this thesis will begin with a systematic review of the literature outlining current factors associated with mental health in mainstream primary and secondary schools. Chapter Three will describe three qualitative studies into the views of teachers, pupils, and parents about school-based factors which affect mental health. This chapter will focus on pre-, during- and post- the COVID-19 pandemic school closures. Chapter Four uses Latent Dirichlet Allocation, a form of topic modelling, to identify topics of conversation amongst parents in relation to the mental health of children in mainstream schools on three public forums. This will allow for an understanding of the main points of discussion amongst parents outside of a controlled, educational environment. Chapters Five and Six outline the development, pilot testing, and validation of a new measure of SBMH, developed on the basis of the research conducted in the first three chapters. Finally, a concluding chapter will outline the implications of this thesis, the limitations associated with the research, and suggestions for future research.

It is worth noting that the data collection for Chapter Five was affected by the aftermath of the school closures as a result of COVID-19. Primarily, this affected access to schools and the amount of data collected for the purpose of validating the new measure. This will be highlighted where

applicable, however, the researcher believes this does not significantly impact the quality of the data or findings.

2.0 Chapter 2: A systematic review of the factors affecting pupil mental health in mainstream schools

The previous chapter of this thesis highlighted the relevant information in relation to mental health among children and adolescents and the problems they can face within the school context. The current chapter will aim to systematically review the literature to highlight the key factors which are being discussed in relation to mental health within schools. This will act as the initial step in understanding the general concept of mental health in schools and which topics in relation to it should be included in a measurement tool for use in mainstream primary and secondary schools in the UK. Please note that succinct reviews for teachers and educational practitioners highlighting the school-based factors associated with mental health are scarce. It is for this reason that this systematic review is intentionally concise, aligning with the researcher's objective of presenting a clear and accessible overview of the factors influencing SBMH. The researcher aims to provide this review as a valuable tool which considers complex concepts as straight forward insights into the topic. Further critical discussion of the main factors highlighted in the review, that are relevant to the development of a school-based measure of MHD, is provided in subsequent chapters.

2.1 Introduction

Research suggests that there has been an increase in diagnosed MHD among children and adolescents (Ford et al., 2021), with the likelihood amongst pupils of developing MHD having increased since 2017 (NHS Digital, 2020). This has raised concerns amongst professionals in both education and health sectors (Pitchforth et al., 2019), particularly as schools have been identified as key settings for mental health promotion in these age groups (Matthews et al., 2014). MHD have been found to be associated with a number of negative school-related outcomes including low school attendance (Finning et al., 2020), poor attainment (Esch et al., 2014), a higher risk of school drop-out (Hjorth et al., 2016), and lower quality friendships.

It is apparent that some groups of children are more vulnerable to developing MHD. Children with SEN are amongst these groups (Rose et al., 2010), with such children experiencing higher levels than their TD peers (Emerson & Hatton, 2007). Further, children who experience poverty and family stress are also more likely to experience MHD (Emmerson, 2003).

Despite there being some understanding of associated consequences of MHD among pupils and those who are more at risk of developing MHD, less is known about the factors that cause it. Evaluating the existing evidence base is also made more challenging because of differences in the terminology used by researchers. This includes MHD (e.g., Hebron & Humphrey, 2014), subjective well-being (e.g., Moore et al., 2018), social emotional mental health (SEMH) (e.g., Dimitrellou & Hurry, 2020) and psychological wellbeing (Deci & Ryan, 2008). For the purposes of this review, MHD will be used as the main term and will refer to behavioural and socioemotional problems as well as subclinical diagnoses, such as anxiety and depression (Soneson et al., 2020). SBMH will also be used as an umbrella term for MHD experienced specifically in the school context.

Given the increasing prevalence of MHD in children and adolescents in the UK, and the negative school-related consequences of such, there is a need to more clearly identify the factors that influence pupil mental health. The present review will, therefore, address the question: "Which school-related factors affect the mental health of pupils in mainstream UK schools?"

2.2 Method

A mixed methods research synthesis (MMRS: Sandelowski et al., 2012), which enables both qualitative and quantitative data to be analysed, was conducted to answer the research question. To guide the reporting of this review, the PRISMA framework was used (Page et al., 2020). Prior to commencement, the review was registered on PROSPERO (International Prospective Register for Systematic Reviews), registration CRD42021266501.

2.2.1 Search strategy

The databases Scopus, ProQuest, ASSIA, PsycArticles and Web of Science were searched for peer-reviewed journal articles published between 2001 and 2023. This time period was chosen because there were a number of significant changes to the national curriculum during that period (Mansell, 2013), for example, the White Paper 'Schools: achieving success' was published in 2001 (Department for Education and Skills, 2001) and was the basis for the wide-ranging 2002 Education Act.

2.2.2 Eligibility criteria

Eligibility criteria were as follows: 1) Population: Children attending primary and secondary mainstream schools in the United Kingdom (UK), 2) Outcome: Any factors identified as influencing child mental health, 3) Study design: Qualitative and quantitative empirical studies, 4) Language: English. Only empirical research conducted in the UK was eligible due to the educational context varying across different countries.

2.2.3 Search terms

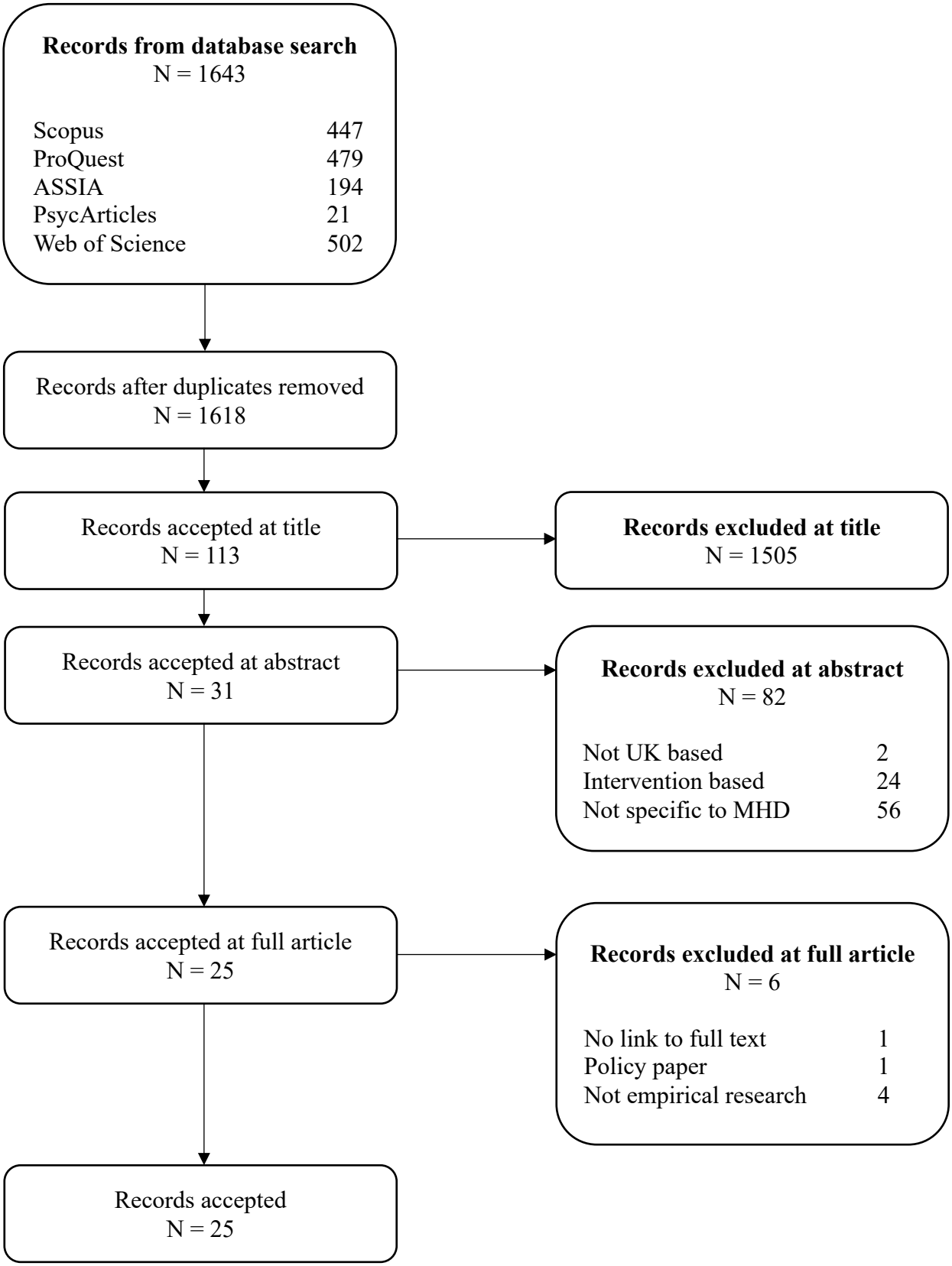
The following electronic databases were searched: PsycArticles, ASSIA, Scopus, Web of Science and Proquest. Relevant papers were reviewed, and keyword search terms were identified and linked using Boolean operators 'AND' and 'OR.' The search terms were as follows:

Mental OR psychological AND health OR wellbeing OR illness AND school AND student OR pupils NOT university OR college.

2.2.4 Details of studies

After completing the search, duplicate articles were removed, and the titles of the remaining articles were screened for eligibility by the researcher. After removing irrelevant articles based on title, the study abstracts were screened by both the researcher and a second rater. Full texts were then read by the researcher and final articles were identified based on eligibility criteria (see Figure 1).

Figure 1. PRISMA flowchart of each step of the systematic review



2.2.5 Quality of selected studies

Study characteristics, including author, design, method, data type, focus area, sample size, summary of results and risk of bias, were then summarised (see Table 2). The risk of bias of the included studies was assessed using the 16-item Quality Assessment with Diverse Studies (QuADS) tool, a valid and reliable assessment tool built specifically for MMRS studies (Harrison et al., 2021). Scores ≤ 60% and > 60% were graded as high and low risk of bias, respectively (see Table 3). Regardless of the risk of bias level, all articles were included in the review to provide an extensive synthesis of the factors.

2.2.6 Data extraction

A concurrent triangulation mixed methods design (*QUAN + qual*) was adopted to analyse the findings of the final studies (Cresswell et al., 2003). An inductive thematic analysis (Braun & Clarke, 2013) was performed by the researcher to identify themes associated with MHD in mainstream primary and secondary schools and find commonalities between studies (Thomas & Harden, 2008). The studies were read a number of times in order for the researcher to gain a thorough understanding of the findings. Themes were then developed as a result of this process. The themes (factors hereafter) were then grouped into categories and discussed and agreed by the first and second raters.

Table 2. Study characteristics and QuADS (Quality Assessment with Diverse Studies) scores

	Reference	Design & Data type	Methods	Participant information	Sample size	Findings in relation pupils not classified as having SEN	Findings in relation to pupils classified as having SEN	MHD Considerations	QuADS score
1	Mahmud, (2019)	Phenomenological Qualitative	Semi-structured interviews with 6 key practitioners and 8 pupils	Year 7 pupils and secondary school teachers	14	A sense of belonging (being accepted by new peers) was reported as important in increasing happiness and reducing anxiety in the transition from primary to secondary school. Some children have access to opportunities, such as breakfast club and extra-curricular activities. Others from economically disadvantaged backgrounds are less likely to experience these opportunities. Pupils experience anxiety about forming new relationships with teachers. It is reported that the school setting can have an effect on overall outcomes for pupils.	N/A	No measurement of mental health present.	50%
2	Johnson et al. (2010)	Quasi-experimental Quantitative	Survey	Teachers and children aged 7 - 11	548	A significant difference was found between children who were and were not bullied in terms of their total difficulties and emotions score. Girls with low scores for behaviour problems were less likely to be victims of bullying.	N/A	The Strengths and Difficulties Questionnaire (Goodman, 1997) was used to	62%

								measure the mental health status of the pupils, these were completed by teachers.	
3	Roome & Soan (2019)	Phenomenological Qualitative	Interviews	Mainstream secondary school, Year 12 students	6	Students reported gaps in learning to be contributors to stress around examination time. Positive support from peers and families, along with high levels of parental engagement, were identified as important factors in relation to student well-being.	N/A	No measurement of mental health present.	62%
4	Goswami (2012)	Quasi-experimental Quantitative	Survey	Mainstream secondary schools, Year 8 and 10 students	4,673	Positive family relations had the largest effect on emotional wellbeing, with positive friendships following. Negative peer relationships and bullying were found to have a small but significant, effect on emotional wellbeing and life satisfaction.	N/A	The Students' Life Satisfaction Scale (Huebner, 1991) was used to measure subjective well-being, family relationships and friendships with friends.	88%
5	Humphrey & Wigelsworth (2012)	Cross-sectional Quantitative	Survey	Primary school children, aged 6 - 11	628	The authors suggest that the way in which an individual school promotes mental health and well-being can ultimately affect the mental health difficulties of its	Children with SEN were more likely to have mental health difficulties than those without a diagnosis.	The Strengths and Difficulties Questionnaire (Goodman,	76%

						pupils. Pupils who consistently achieved a higher level of attainment were also at an increased risk of developing anxiety.			1997) was used to measure the mental health status of the pupils.	
6	Gutman et al. (2018)	Longitudinal Quantitative	Strengths and Difficulties Questionnaire (Goodman, 2001)	Children aged 10 and 11	14,649	The scale used focused upon peer problems, prosocial behaviour, emotional problems, conduct problems and hyperactivity. Boys' mental health improved between 1999 to 2012. The data from the girls showed an increase in peer problems from 2004 to 2012. Parents reported an improvement in mental health amongst school-aged girls from 1999 to 2004, but a deterioration between 2004 and 2012.	N/A		The Strengths and Difficulties Questionnaire (Goodman, 1997) was used to measure the mental health status of the pupils.	67%
7	West & Sweeting (2003)	Quasi-experimental Quantitative	General Health Questionnaire (Goldberg & Williams 1988)	15-year-olds	1,682	Females worried more than males about academic attainment and doing well at school. Worries in relation to schoolwork and exams have been found to be a contributor to psychological distress.	N/A		The General Health Questionnaire (Goldberg & Williams. 1988) was used to measure psychological distress in participants and the 11 to 16 Questionnaire (Ecob et al.,	76%

								1996) was used to measure participant worry.	
8	Dimitrellou & Male (2020)	Quasi-experimental Mixed	Strengths and Difficulties Questionnaire (Goodman, 2001) and interviews	Secondary school pupils, years 7 to 10	Questionnaires – 1,440 Interviews – 37	TD pupils believed teachers distributed their attention unfairly to those diagnosed with SEN. TD children also found it easier to form friendships and reported a sense of trustworthiness as a result of this.	Few pupils with social emotional mental health (SEMH) reported satisfaction with the classroom experience they received, with the majority believing teachers distributed their attention unfairly. Most pupils with SEMH reported negative relationships with their teachers and noted that a lack of empathy and understanding was the main contributor. A minority of pupils with MLD (mild learning difficulties) reported being severely bullied due to their additional needs. The majority of pupils with SEMH reported negative views of friendships and experiences of bullying.	The Strengths and Difficulties Questionnaire (Goodman, 1997) was used to measure the mental health status of the pupils.	85%
9	Rahman et al. (2018)	Quasi-experimental Quantitative	SAIL (Secure Anonymised Information	Education records for individuals	627,423	Pupils achieving the expected government standard in KS1[3] but not at KS2[4] are more likely to be	N/A	No measurement	57%

[3] Key Stage 1 (KS1): Years Reception, one and two.
[4] Key Stage 2 (KS2): Years three, four, five and six.

			Linkage) databank.	aged between 5 and 20 living in Wales		diagnosed with depression in adolescence. Those pupils with a diagnosis of depression are 38% less likely to achieve their expected grades in KS3[5] and 50% less likely in KS4[6].		of mental health present.	
10	Deighton et al. (2019)	Quasi-experimental Quantitative	Survey – information not disclosed	Pupils in mainstream schools in years 7 and 9	28,160	Pupils from disadvantaged backgrounds and those on Free School Meals (FSM) are more likely to experience mental health difficulties. For schools in areas in which deprivation is high, mental health difficulties are likely to be even higher than other areas. Peer problems were not considered as detrimental to mental health as other factors, such as socio-economic status and teacher relationships.	N/A	The Strengths and Difficulties Questionnaire (Goodman, 1997) was used to measure the mental health status of the pupils.	52%
11	McLellan & Steward, (2015)	Experimental Quantitative	How I Feel About Myself and School (McLellan & Steward, 2015)	Primary and secondary schools	5,170	Girls are more likely than boys to report more positive levels of life satisfaction in primary school, with this reversing in secondary school. Secondary school pupils report feeling less competent than those in Year 6. Girls' wellbeing is reported as being a concern given that they report negative emotion more frequently than boys. Life satisfaction, for both genders, is	N/A	No measurement of mental health present.	80%

[5] Key Stage 3 (KS3): Years seven, eight and nine.
[6] Key Stage 4 (KS4): Years 10 and 11.

						reported lower in Year 6 than Year 3 and could be linked to Standard Assessment Tests (SATs)[7].				
12	Harding et al., (2019)	Cross-sectional, multi-level Quantitative	Warwick Edingburgh Mental Wellbeing Scale (Tennant et al., 2007)	Year 8	3,216	The study found that better teacher-student relationships were linked to better student wellbeing and lower psychological distress.	N/A		The Warwick Edinburgh Mental Wellbeing Scale (Tennant et al., 2007) was used to measure student and teacher wellbeing. The Strengths and Difficulties Questionnaire (Goodman, 2007) was used to measure student psychological distress and the Patient Health Questionnaire (Kroenke et al., 2009) was used to measure	74%

[7] Standard Assessment Tests (SATs) are standardised tests to measure the educational achievement of school pupils in Years 2 and 6. Pupils are required to sit both maths and English SATs.

								teacher depressive symptoms.	
13	Long et al. (2021)	Cross-sectional, multi-level Quantitative	General Health Questionnaire (Goldberg & William,s 1988)	15-year-olds	2,571	Females and those with already low levels of self-esteem are at higher risk of developing poor mental health. Social support from friends was positively associated with mental health scores, indicating better mental health. Higher levels of mental health were associated with good relationships with teachers and high perception of inclusivity.	N/A	The General Health Questionnaire (Goldberg & Williams, 1988) was used to measure mental health.	64%
14	Gibbons & Silva (2011)	Quasi-experimental Quantitative	Longitudinal Survey of Young People in England	Year 9	15,500	Children who achieve well academically are not likely to compare their progress to their peers and show higher levels of self-esteem to those who compare attainment.	N/A	The Longitudinal Survey of Young People in England was used to measure subjective perceptions of school.	76%
15	Kidger et al. (2015)	Longitudinal Quantitative	Survey	14-year-olds	3,939	Pupils who do not feel connected to, and included in, the school environment are more likely to self-harm. This also applies to pupils who find their teachers to be inconsistent.	N/A	The Strengths and Difficulties Questionnaire (Goodman, 2007) and the Short Moods and Feelings Questionnaire (Patton et al.,	64%

								2008) were used to measure participant emotional health.	
16	Gorman et al. (2020)	Longitudinal Quantitative	Longitudinal Survey of Young People in England	13-to-16 years	7,000	Bullying has short-term negative consequences on academic outcomes and long-term negative effects on mental health and unemployment.	N/A	No measurement of mental health present.	76%
17	Coombes et al. (2013)	Phenomenological Qualitative	Focus groups	Year 10	8 focus groups	Stressful situations such as exam pressure and relationships difficulties can lead to anxiety and depression. Pupils found teachers who understood their feelings and emotions to be more effective. Pupils discussed the importance of having friends to share worries and concerns with.	N/A	No measurement of mental health present.	64%
18	Lereya et al. (2019)	Quasi-experimental Quantitative	Strengths and Difficulties Questionnaire (Goodman, 2001)	Year 7	15,301	N/A	All mental health difficulties were associated with attainment. Being eligible for FSM and having SEN were also associated with lower attainment. Poor peer relationships were described as having a negative effect on academic performance and emotional difficulties.	No measurement of mental health present.	55%

19	Hall (2010)	Phenomenological Qualitative	Focus groups	Years Reception - 6	18	Children reported teacher praise, positive relationships, after-school clubs and equal opportunities to be beneficial to their emotional wellbeing. Pupils believed that improved teacher support for social situations and having worry boxes around the school would benefit their emotional well-being.	N/A	No measurement of mental health present.	52%
20	Tobias (2009)	Phenomenological Qualitative	Focus groups	Years 9 and 11	10	N/A	It was felt important for staff to have a good understanding of ASD and the social challenges it can pose and to support pupils accordingly. Pupils with ASD often expected bullying to take place in the school environment, which negatively affected their mental health.	No measurement of mental health present.	52%
21	Rivers et al. (2009)	Quasi-experimental Quantitative	Perpetrator, Victim and Witness Status (Olweus, 1994)	Ages 12 – 16	2,002	The authors suggest that witnessing bullying behaviour can have a negative impact on the mental health of pupils, even if the individual has not been subject to bullying themselves.	N/A	The Brief Symptom Inventory (Derogatis, 1994) was used to measure psychological distress.	64%

22	Whitaker (2007)	Quasi-experimental Quantitative	Survey	Primary and secondary	173	N/A	Parents expressed concern about staff understanding of ASD and believed a better understanding can promote positive mental health. Peer relationships with children were also seen as important to well-being.	No measurement of mental health present.	62%
23	Jessiman et al. (2022)	Qualitative	Interviews and focus groups	Secondary	62	Whole-school environment can have a significant impact on the mental health of pupils. A sense of community and safety are deemed essential to supporting the positive mental state of students.	N/A	No measurement of mental health present.	
24	Mulholland & Parker (2022)	Qualitative	Interviews and focus groups	Primary and secondary	> 250	The authors reported that friendships play a pivotal role in allowing children to feel safe within the school environment. Positive relationships allow a sense of belonging and provide children with opportunities to play and engage in activities. The ability to cope with stress was seen as reliant on the strength of the relationships a child had with others and also their access to professionals, such as teachers.	N/A	No measurement of mental health present.	
25	Toseeb & Asbury (2023)	Quantitative	Longitudinal	Primary and secondary	527	N/A	Autistic young people were at a higher risk of experiencing anxiety symptoms if exposed to bullying behaviour, The school closures during	The Anxiety Scale for Children with Autism Spectrum Disorder	

	COVID-19 was seen to help reduce anxiety levels and this was believed to be due to a reduced amount of time in the school environment. Autistic children and adolescents attending mainstream school were also more likely to experience anxiety than those attending specialist provision, this is believed to be due to special schools catering to their specific needs more effectively.	(ASC-ASD) (Rodgers et al., 2016) was used to measure symptoms of anxiety. The Revised Children's Anxiety and Depression Scale (Chorpita et al., 2000) was used to measure symptoms of depression. The Warwick Edinburgh Mental Wellbeing Scale (Tenannt et al., 2007) was used to measure overall well-being and the Kessler-6 (Kessler et al., 2003) was used to measure psychological distress

Table 3. Quality Assessment Tool (QuADS) scores for all reviewed papers (scores range from 0 – 3)

Ref	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Score	%
1	0	3	1	2	1	3	3	0	N/A	N/A	2	3	3	0	0	0	21/42	50%
2	1	3	3	1	3	3	3	3	0	2	N/A	3	0	N/A	0	1	26/42	62%
3	3	3	1	1	1	3	3	2	N/A	N/A	1	3	3	0	0	2	26/42	62%
4	2	2	3	3	2	3	3	2	3	3	N/A	3	3	N/A	3	2	37/42	88%
5	1	3	3	2	2	2	3	2	3	3	N/A	3	2	N/A	0	3	32/42	76%
6	0	3	3	2	3	3	1	3	1	2	N/A	2	2	N/A	0	3	28/42	67%
7	3	3	3	2	2	3	3	3	1	3	N/A	3	0	N/A	0	3	32/42	76%
8	2	3	2	3	2	3	3	3	3	3	3	3	3	0	3	2	41/48	85%
9	0	3	3	2	3	1	1	3	0	2	N/A	2	1	N/A	0	3	24/42	57%
10	0	3	3	2	3	3	2	0	0	2	N/A	3	0	N/A	0	1	22/42	52%
11	2	2	2	2	2	3	3	3	2	3	N/A	3	3	N/A	3	1	34/42	80%
12	1	3	2	3	2	2	2	2	3	3	N/A	3	2	N/A	0	3	31/42	74%
13	3	3	3	0	2	2	2	1	0	3	N/A	3	3	N/A	0	2	27/42	64%
14	1	3	3	2	1	3	3	2	3	3	N/A	3	3	N/A	0	2	32/42	76%
15	0	3	2	0	2	2	1	3	2	3	N/A	3	3	N/A	0	3	27/42	64%
16	1	2	3	3	3	3	2	1	3	3	N/A	3	3	N/A	2	2	34/42	81%
17	2	3	3	2	2	2	2	3	N/A	N/A	3	3	3	0	3	1	32/42	76%
18	0	3	3	3	3	2	0	2	0	2	N/A	3	1	N/A	0	1	23/42	55%
19	3	3	1	0	1	3	3	2	N/A	N/A	2	2	0	0	0	2	22/42	52%
20	1	3	2	2	1	3	2	3	N/A	N/A	1	2	0	1	0	1	22/42	52%
21	0	3	3	1	2	3	3	2	1	3	N/A	2	1	N/A	0	3	27/42	64%
22	2	1	3	1	1	2	2	2	0	3	N/A	3	2	N/A	3	1	26/42	62%
23	2	3	2	3	3	3	1	3	N/A	N/A	3	3	2	0	0	2	29/42	69%
24	2	1	2	2	1	3	2	3	N/A	N/A	2	2	3	0	0	3	26/42	62%
25	3	3	3	3	2	2	2	2	0	3	N/A	2	3	N/A	0	3	31/42	74%

2.3 **Results and discussion**

The study flowchart is presented in Figure. 1. Twenty-five studies were included in the review; seven of which were qualitative, one mixed-methods and 17 were quantitative. Four studies focused on primary schools, 16 on secondary schools and five featured both.

The quality appraisal (QuADS) indicated a high risk of bias for six studies and low risk for 16 studies (see Table 3). Included in the low risk of bias studies, 14 were guided by an explicit theoretical framework and six discussed using pilot testing for their data collection tool. Amongst the high risk of bias studies, many did not include a theoretical framework, a clear procedure or assessment of the validity and reliability of their assessment tools. Additionally, studies were identified as to whether they provided a clear definition of the terminology used, such as psychological wellbeing and mental health. Twelve studies provided a clear definition of, and explanation for, their chosen terminology, 13 did not.

Six main school-related factors were identified from the studies that related to child mental health. These are grouped into direct and indirect contributors. Direct factors are identified as inclusion, teachers, and academic achievement. Indirect influences are socio-economic status (SES), a whole-school approach, and individual differences.

2.4 Direct factors associated with SBMH

2.4.1 *Inclusion*

Fifteen studies highlighted the importance of inclusion in the school environment and the effect it can have on mental health. This was particularly important when transitioning between schools and in respect of peer relationships at school. Acceptance by peers was reported as helping to reduce the anxiety associated with the transition from primary school (Mahmud, 2020). Other studies (Coombes et al., 2013; Jessiman et al., 2022; Long et al., 2020; Mulholland & Parker, 2022; Roome & Soan, 2019) reported more general positive associations between peer support and SBMH.

Similarly, negative peer relationships, such as being bullied, had an adverse impact on mental health, including life satisfaction (Goswami, 2011; Johnson et al., 2010; Rivers et al., 2009; Whitaker, 2007), although Deighton et al. (2019) found that peer problems were less detrimental to this than

factors such as receiving free school meals, gender, ethnicity, and age. Children with mild learning difficulties (MLD) were found to be frequently subject to such negative peer relationships (Dimitrellou & Male, 2020), for example, bullying and believed this was due to their additional needs. The authors contrasted this with pupils without a diagnosis and found that those pupils formed new friendships with ease and reported a sense of trust between friends. Comparably, it is reported that autistic children experienced a decrease in anxiety levels during the COVID-19 pandemic, a phenomenon which saw the closure of schools to most pupils in Spring 2020, and this was believed to be due to the reduction of social anxiety and bullying (Toseeb & Asbury, 2023).

2.4.2 Teachers

Relationships with teachers were also important to SBMH and had the potential to impact in a positive or negative way. Positive relationships with teachers were reported as being related to lower levels of pupil MHD, a heightened sense of inclusion (Long et al., 2020); lower psychological distress (Harding et al., 2019); and for pupils with ASD, helped them to form and maintain relationships with peers (Tobias, 2009).

Teachers who showed an understanding of the pupil's emotions and feelings were thought to be more effective (Coombes et al., 2013) and positively contributed to SBMH by offering a motivating and positive environment. By contrast, a lack of teacher understanding and consistency was seen as having an adverse impact on SBMH (Whitaker, 2007), including for children with social emotional mental health (SEMH) needs or ASD (Dimitrellou & Male, 2020; Kidger et al., 2015). Teacher attitudes were also among findings, with parents expressing concerns that strict teachers may have a detrimental impact on the mental health of their children. It was also believed that teachers who show a heightened focus on academic performance can often overlook anxiety and stress among students (Jessiman et al., 2022).

2.4.3 Academic achievement

A number of studies reported that pupils experienced negative emotions such as anxiety, depression and feelings of incompetence related to examinations and attainment targets (Coombes et al., 2013;

McLellan & Steward, 2015; West & Sweeting, 2003). This places children with SEN at a particular risk of poor SBMH, due to the commonly associated lower academic attainment (Hall, 2010).

Research suggests that those who do not struggle academically are less likely to experience low self-esteem (Gibbons & Silva, 2011), however some of those who achieve high levels of academic achievement can still experience MHD. This is thought to be due to the pressures placed on pupils by staff to attain a certain academic standard (Humphrey & Wigelsworth, 2012). Only one study reported a difference between diagnosed and non-diagnosed pupils, with Hall (2010) finding that those with SEN often demonstrate lower academic attainment and see this as negatively affecting their SBMH.

Examinations were frequently highlighted as a factor influencing SBMH (Coombes et al., 2013; McLellan & Steward, 2015; Rahman et al., 2018; West & Sweeting, 2003). Undergoing examinations can cause a heightened sense of anxiety and stress (Coombes et al., 2013) and the literature refers specifically to SATs as being anxiety-provoking (McLellan & Steward, 2015). Examinations also have the potential to impact adversely on the future mental health of pupils, with those who do not achieve government expected standards at Key Stage 2 being at a heightened risk of maintaining poor mental health in future years (Rahman et al., 2018). The run up to examinations can also lead to anxiety and depression (Coombes et al., 2013) and life satisfaction is known to be lower amongst Year 6 pupils, with research suggesting this could be linked to the impending SATs (McLellan & Steward, 2015).

2.5 Indirect factors associated with child mental health

2.5.1 Socio-economic status (SES)

There were several indirect influences on pupil PWB and first to be discussed is SES, which can be a contributor to educational inequality.

As highlighted above, attainment can impact pupil mental health, and children from disadvantaged backgrounds often experience lower levels of attainment (Hall, 2010). Children from families with higher SES can access opportunities such as private tuition and out-of-school clubs, which can ultimately benefit their academic attainment (Mahmud, 2019). Children from

disadvantaged backgrounds are likely to have fewer opportunities to access these types of activities and support (Mahmud, 2019), which are seen by some authors as key in promoting PWB (Hall, 2010). Five of the reviewed studies discussed the adverse effects on pupils of being part of a low-income family, all of which were linked to poor PWB by the authors.

2.5.2 A whole-school approach

A whole-school approach, that, for example, promotes inclusion and positive peer support (Mahmud, 2019) was seen as relevant for promoting PWB (Humphrey & Wigelsworth, 2012; Hall, 2010; Kidger et al., 2015; Tobias, 2009). The general school setting was seen as important for improving overall pupil outcomes, including a sense of belonging and academic attainment (Mahmud, 2019). Those who do not feel included in the school environment are said to be more likely to self-harm in the future (Kidger et al., 2015). Further to this, it is reported that the senior leadership team of a school is pivotal in shaping a positive school culture. Senior staff being present and welcoming to students is known to promote a positive atmosphere and can contribute positively to SBMH, this was also seen as especially important during the school closures in Spring 2020 (Jessiman et al., 2022).

The academic expectations of the whole school can also have an impact on SBMH. One study reported findings of high levels of pupil anxiety and stress within one school which was particularly known for its high academic standards (Jessiman et al., 2022).

2.5.3 Individual Differences

Individual differences, such as SEN status and gender, were identified as indirect influences on SBMH and operated through other factors such as academic achievement and examination stress.

In respect of gender, two studies reported that more females experience mental health problems than their male peers (Gutman et al., 2018; West & Sweeting, 2003), with McLellan and Steward (2015) also noting a decline in girls' mental health from primary to secondary school. The mental health of boys, in relation to academic attainment and peer relationships at school, was reported by Gutman et al. (2018) to have improved between the years 1999 and 2012, while girls experienced an increase in peer problems between 2004 to 2012. Girls are also reported to show signs

of stress and anxiety in relation to academic attainment more frequently than boys (Long et al., 2020; McLellan & Steward, 2015;).

Pupils with diagnoses of SEN, SEMH and MLD often experience difficulties in relation to academic attainment and forming relationships within the school setting (Hall, 2010). Specific to academic attainment, pupils with SEMH were reported to be unhappy with the education they were experiencing and believed that teacher attention was not distributed fairly amongst the pupils (Dimitrellou & Male, 2020), ultimately affecting their attainment. Pupils with SEN expressed a desire for understanding from their teachers (Rivers et al., 2009) and were often subject to bullying from class peers (Dimitrellou & Male, 2020).

2.6 Strengths and limitations

This review is the first systematic review to identify factors of SBMH and a robust methodology is used throughout. The conclusions of this review will help inform the development of a school-based measure of mental health. However, the limitations of the study must be acknowledged. While the review did include both qualitative and quantitative findings, which allowed for a more comprehensive view of the factors thought to influence mental health, there is a risk of publication bias, as unpublished articles were not considered. Further to this, many of the reviewed studies were observational or qualitative meaning that a causal link between the identified factors and MHD cannot be assumed. The specific focus on the UK educational context may also limit the generalisability of the results, although research in other countries has been consistent with some of the results found in this review (e.g. Schulte-Körne, 2016).

In summary, the present chapter has outlined a number of direct and indirect factors associated with SBMH, allowing an increased understanding of which aspects of school life could potentially affect the mental health of pupils in mainstream primary and secondary schools in the UK. These factors, and others will now be explored further in the next chapter by adopting a qualitative approach and obtaining the perspectives of pupils, parents, and teachers.

2.7 Conclusion

The present review aimed to explore the factors associated with SBMH in mainstream schools in the UK, in order to inform the development of a school-based measure of mental health. The findings identified several school-related factors that influence the mental health of pupils in the UK which could be considered when developing school-based measures of mental health. Some of these related directly to the school context such as the sense of belonging and inclusion, relationships with peers and teachers and academic factors, such as exams and attainment. Others, such as SES and individual characteristics, are not directly under the control of the school and, as such, would not be included as items in a school-based measure.

The review also highlighted the lack of specific school-based measures of mental health. Most of the reviewed studies used the Strengths and Difficulties Questionnaire (Goodman, 2007) to measure mental health in participants. Whilst this measure is appropriate for use as a behavioural questionnaire, it was not specifically designed or standardised for use in schools, and the self-report version is only validated for ages 11 to 17 years.

Only six of the reviewed studies measured MHD in relation to children with SEN, despite a growing number of children with such difficulties now attending mainstream schools (Thomas & Vaughan, 2006). Research indicates that pupils with diagnoses of SEN, SEMH and MLD can experience difficulties in relation to their academic attainment and relationships with peers and teachers (Hall, 2010; Koster et al., 2010; Rose et al., 2010), all of which this could place children with SEN at a higher risk of developing poor mental health. The wider implications of this chapter will be discussed in the final chapter of this thesis.

3.0 Chapter 3: A qualitative exploration of the views of teachers, parents, and pupils regarding pupil mental health in school settings, pre- and post- the COVID school closures

The results of Chapter Two highlighted that six main factors were relevant to the SBMH of pupils, these included: a sense of belonging and inclusion, relationships with teachers, academic attainment, socioeconomic status, whole-school approaches, and individual differences. The school closures as a result of the Covid-19 pandemic raised some concerns about the impact that the loss of learning and social contact would have on pupils. It also allowed for the exploration of the influence of online learning, which became the new normal for children not attending school. In this chapter, the results of qualitative interviews with pupils, parents, and teachers are reported. These interviews obtained the participants' views about the school-related factors that influenced mental health pre-, during, and post-school closures and other Covid-related restrictions.

3.1 Introduction

The UK government imposed nationwide lockdown restrictions in March 2020 to manage the spread of the Covid-19 virus. This included the closure of all primary and secondary schools (Viner et al., 2020). Only those who were vulnerable, or children of key workers continued to attend schools. These closures occurred in the context of other measures that were designed to reduce the Covid-19 transmission rate. These included social distancing, restrictions on meeting with others and all but essential shops and activities being required to shut down (Scally et al., 2020). The school closures were in place for approximately three months, with the government announcing a gradual school reopening in May 2020 for primary schools and June 2020 for secondary schools.

Pupil mental health has been a concern for a considerable amount of time (Polanczyk et al., 2015) and prior to the school closures in 2020, 1 in 9 children between the ages of five and 19 were known to have some form of mental health difficulty (NHS Digital, 2020). As a result of the global pandemic, educational provision was significantly disrupted (Reimers & Schleicher, 2020) and this raised concerns regarding the mental health of pupils. Currently, the literature highlights four main areas believed to be associated with pupil mental health, these are: parental involvement, pupil-peer relationships, teacher-peer relationships and curriculum expectations (Fink & Hughes, 2020). Whilst it was believed that the school closures potentially provided some benefits for children, such as an

increase in time spent with family (Barrett, 2020), there were concerns about the loss of access to support services, disrupted routines, and anxiety over upcoming exams and how these factors might impact negatively on mental health (Lee, 2020).

Further, some caregivers reported an increase in levels of boredom, loneliness, sadness, frustration, worry, anger, and anxiety among children aged five to 11, as a result of the school closures (Morgül, 2020). Increases in screen time and a reduction in physical activity were also reported (Kovacs et al., 2021), with a study conducted in China suggesting one-quarter of children were experiencing sleep difficulties, which were thought to be related to the loss of physical activity and routine (Viner et al., 2022). Of particular note, the 2020 NHS Digital Survey of children and young people's mental health in England highlighted that 1 in 6 children had a probable mental health disorder, an increase from the 2017 statistics (NHS Digital, 2020). It is important to note that the increase in mental health problems between the years of 2017 and 2020 could have simply been due to more children and young people reporting on their mental health (Sadler et al., 2018), however, 40% of children reported worsened mental health as a direct result of the pandemic (Waite et al., 2020).

Research has been conducted regarding teacher perceptions of the effect Covid-19 has had on education, with Kim and Asbury (2020) reporting 'uncertainty' as a key finding in their qualitative study. Their participants expressed concern at their inability to support pupils due to new restrictions and online learning. The authors also discussed teacher worries about the most vulnerable pupils. Further to this, the relationship between teachers and their pupils is known to influence the psychological wellbeing, personal development, and self-esteem of pupils (Barth et al., 2004; Murray & Greenberg, 2000). A systematic review of qualitative studies from 16 databases demonstrated that pupils can feel unsafe in school when positive relationships are not present between pupils and teachers (Jamal et al., 2013). Similarly, consistently negative pupil-teacher relationships are associated with lower self-esteem and higher levels of mistrust among pupils (Goldstein et al., 2005; Patterson et al., 2000). A consequence of the school closures was that children had more limited direct time with their teachers, with children from the most disadvantaged homes studying for only 75 minutes per day, using a combination of independent and teacher-led learning (Education Policy Institute, 2020).

Levels of teacher well-being have also been noted to have decreased throughout the school closures, with many struggling to cope with the pressure of teaching both in-class and online (Robinson et al., 2022). This may have also had an impact on pupil well-being, with research proposing that teacher well-being and pupil well-being are linked (Roffey, 2012).

Whilst teachers and peers have the ability to influence pupil mental health in a school-based setting, less is known about the role of parents. The limited research in this area suggests that parental involvement can help to promote self-esteem in pupils (Garbacz, 2017). It may also indirectly reduce stress related to concerns about academic attainment, as appropriate levels of parental involvement can benefit children and adolescents of all ages in relation to academic achievement (Desforges & Abouchaar, 2003). Throughout the school closures, parents were expected to support their children emotionally and academically using resources provided from schools (Trevino et al., 2021).

There is increasing interest in understanding the effect of the school closures on the psychological wellbeing of pupils who were required to stay at home (Holmes, 2020; Wang et al., 2020) and those who continued to experience school life but in very different circumstances. One study relating to the SARS pandemic in 2013 found that the perceived threat of the virus and social isolation subsequently caused symptoms of anxiety in children (Sprang & Silman, 2013). Further to this, research in China has found an increase in depressive and anxiety symptoms among young people as a result of the Covid-19 pandemic (Liang et al., 2020).

It is important to consider that children with SEN may have experienced different challenges throughout the school closures, in comparison to their TD peers. For example, it has been reported that children with SEN may have struggled with missing large aspects of online learning due to attention difficulties (Walters et al., 2022). Research prior to the pandemic reports that children with Dyslexia often find some study skills problematic, with text-based and synchronous e-learning isolating and demotivating students, ultimately leading to them falling behind their classmates (Woodfine et al., 2008). This is likely to have caused problems for such children when participating in online learning during the school closures. Martin and Bolliger (2018) report that the success of online learning depends on student engagement and this can depend upon self-regulation, time management, and organisation (Kauffman, 2015). Furthermore, Walters et al. (2022) stress the

importance of understanding the difficulties children with SEN may face when transitioning from classroom-based to online learning. Their study found that students' self-reported concentration, engagement, and ability to learn were significantly lower during the online learning part of the pandemic and that this had an impact on their mental health. This was the case for all children but was more prominent amongst those with SEN.

Since the 2020 school closures, charities such as Young Minds have offered advice regarding the mental health of children and adolescents during the pandemic and qualitative studies have been conducted to better understand how the school closures affected the well-being of pupils, however, such studies have focused on lower-attaining pupils (Buchanan et al., 2022), parental well-being during home-schooling (Khan, 2022), and the general improvement of well-being during the school closures (Soneson et al., 2022). To date, no qualitative studies have been conducted to explore how school pupils were affected from the perspective of teachers, parents, and pupils collectively. To address this gap, the current study aims to explore the views of the three participant groups in relation to the psychological well-being of the pupils, pre-, during, and post- the Covid-19 pandemic, in relation to both TD children and children with SEN. Given that parental support and teacher relationships have been noted to contribute positively to the academic performance and mental well-being of pupils, it is important to explore the perspectives of teachers and parents, as well as the pupils. The results will build on the literature review outlined in the previous chapter and will further inform the development of a measure of school-related mental health (see Chapter Five), by helping to ensure that it has acceptable face and content validity.

3.2 Method

3.2.1 Approach

This study adopts an epistemological perspective that is interpretive, with the primary objective being to collate information from the participants through open-ended, semi-structured interview questions, which have no right or wrong answer. The participants' responses provided a framework for thematic analysis to be conducted, in line with the six steps outlined by Braun and Clarke (2013). To further understand and interpret the information, interviewer responses were included. It is also important to

consider that the researcher is a qualified primary school teacher and that this could have subconsciously influenced the interpretation of the data gathered.

3.2.2 Design and ethics

The study adopted a qualitative approach and used semi-structured interviews with pupils, parents, and teachers. A qualitative approach was used to allow for a detailed and nuanced exploration of the relevant school-based factors that can affect the emotional well-being of pupils. The interviews took place between June 2020 and September 2020. The study was approved by the researcher's University Ethics Committee and all participants provided informed consent, with parents also providing consent for their children to take part.

3.2.3 Participants

Twelve parents, 13 teachers, and 13 pupils were recruited to take part in the study, all of whom were associated with mainstream UK primary and secondary schools (see Table 4).

Table 4. Demographic information about the participants

Participant group	Participant code	Age	Gender	School age of concern	Additional learning needs
Parents	Pa 1	N/A	Female	Primary	N/A
	Pa 2	N/A	Female	Primary	N/A
	Pa 3	N/A	Male	Secondary	N/A
	Pa4	N/A	Female	Primary	N/A
	Pa 5	N/A	Female	Secondary	N/A
	Pa 6	N/A	Female	Secondary	N/A
	Pa 7	N/A	Female	Primary	N/A
	Pa 8	N/A	Female	Secondary	N/A
	Pa 9	N/A	Female	Primary	N/A
	Pa 10	N/A	Male	Secondary	N/A
	Pa 11	N/A	Female	Primary	N/A
	Pa 12	N/A	Female	Primary	N/A
	Pa 13	N/A	Male	Primary	N/A

Pupils	Pu 1	11	Female	Primary	No
	Pu 2	7	Male	Primary	No
	Pu 3	12	Female	Primary	No
	Pu 4	15	Male	Secondary	No
	Pu 5	13	Female	Secondary	Yes
	Pu 6	11	Male	Primary	No
	Pu 7	8	Female	Primary	Yes
	Pu 8	13	Male	Secondary	No
	Pu 9	13	Male	Secondary	No
	Pu 10	14	Female	Secondary	No
	Pu 11	9	Male	Primary	Yes
	Pu 12	10	Female	Primary	No
	Pu 13	16	Female	Secondary	No
	Pu 14	15	Female	Secondary	No
	Pu 15	8	Female	Primary	No
	T 1	N/A	Female	Secondary	N/A
	T 2	N/A	Male	Secondary	N/A

	T 3	N/A	Male	Secondary	N/A
	T 4	N/A	Female	Primary	N/A
	T 5	N/A	Female	Secondary	N/A
	T 6	N/A	Female	Primary	N/A
	T 7	N/A	Female	Primary	N/A
	T 8	N/A	Female	Primary	N/A
	T 9	N/A	Male	Primary	N/A
	T 10	N/A	Male	Secondary	N/A
Teachers	T 11	N/A	Female	Secondary	N/A
	T 12	N/A	Female	Primary	N/A
	T 13	N/A	Female	Primary	N/A

3.2.4 Procedure

Participants were recruited through social media parenting networks and the researcher's professional network. Participants were able to view a summary of the study before following the link provided to an online page which provided further, more detailed, participant information (See Appendix 2). Participants were required to record their consent and were provided with the researcher's contact details to enable them to organise a suitable interview time. This also provided participants with the opportunity to ask any questions they might have about the study.

3.2.5 Developing and piloting the interview schedule

An interview schedule (see Appendix 3) was developed following a systematic review of the literature (see Chapter Two) and with input from four parents. As recommended in the literature (Grover, 2004), a small number of parents were included in the planning of the questions in order to ensure both parents and pupils would understand what was being asked. This also allowed for parents to voice their opinion on the wording and whether or not they would be happy for their child to be asked the questions. The information provided by parents who took part in this piloting was not included in the main study.

The following topics were covered: Aspects of school that pupils liked and disliked pre and during the school closures, things that made pupils feel better pre and during school closures, feelings about the lockdown (both positive and negative), and feelings regarding pupils returning to school (positive and negative). Prompts were used by the interviewer in relation to the following topics: school curriculum, friendships, pupil-teacher relationship, familial support, and out of school activities. The interview schedule allowed for consistency throughout each interview, whilst also enabling participants to freely discuss the experiences of their children during the school closures.

Interviews took place via telephone and lasted between 20 and 45 minutes. All were recorded using a digital recorder. Subsequently, data analysis took place as outlined below.

3.2.6 Data Analysis

The interviews were transcribed based on an inductive approach, using thematic analysis (Braun & Clarke, 2013). The transcripts were first read on a number of occasions by the researcher, a qualified teacher and psychology graduate. The transcripts were then subject to coding and sections were

highlighted before categorising the data in order to create initial codes. As each transcript was analysed, the codes were adapted. The themes were refined until two main themes and their associated subthemes were identified. A summary of the final results was sent to the participants in order to ensure they reflected their perspectives accurately. No changes were requested.

Data was anonymised during the transcription process in order to ensure no identifying information was present. Participants were designated by the initial ‘t’ (teacher), ‘p’ (pupil), and ‘pa’ (parent) followed by their participant number. The following section will present the results separately for each participant group and will close with a combined discussion of all data. Table 5 shows each theme and the associated sub-themes.

Table 5. Themes and associated sub-themes across all participant groups

Participant group	Theme	Sub-theme	Description
Teachers	"The children have regressed" – Academic attainment	"Everyone is worried about keeping up with the curriculum"	Teacher worries regarding keeping the level of attainment children had pre-school closures
		"A one-size-fits-all test"	Standardised tests carried out despite varying levels of academic attainment within year groups
		"Younger children are struggling to adapt"	The difficulties younger children face adapting to learning online and school closures
		"It's getting younger and younger, where children are feeling…anxious"	Children showing symptoms of anxiety prior to school closures

	“Personal involvement is so important”	The importance of teacher relationships within the school setting
“That child needs a bit of a lift” – The importance of social relationships	“Teachers need to be…good role models”	The difficulties children face in light of the social distancing guidelines
	“Children are being told not to hug or play too closely”	The importance of parental involvement for children and their academic attainment and well-being
	“People sometimes get sad when they get like bad marks”	The difficulties faced with standardised testing in school settings
“It’s all tricky” – Academic attainment	“There’s no kind of like pressure”	A sense of freedom with the school closures and a reduction in academic pressure

Pupils		“Expected… just to be able to crack on”	The difficulties some children are facing with a lack of teacher direction
		“I want to stay off forever”	Reluctance to return to the structured life of school
		“It helps when you have nice friends”	The importance of positive peer relationships
	“Fall outs and horrible teachers” - The importance of social relationships	“Someone called me an idiot today”	The difficulties faced with negative peer relationships
		“I love most of my teachers”	Teacher relationships are valuable within the school setting
		“We’ve spent much more time as a family”	Family time is deemed as a positive aspect of school closures

Parents	"I am worried sick about the lack of interaction" – The importance of social relationships	"They have struggled with feeling isolated"	The difficulties children have faced as a result of the school closures and social distancing guidelines
		"They're very calm and understanding"	The importance of teacher guidance throughout the school closures
		"Those children who don't have supportive parents, school can be a harder time"	Parental involvement is important for children's academic attainment and well-being
		"He's been behind since reception"	Worries regarding academic attainment as a result of the school closures

	“Why should I bother if I keep getting it wrong?” – Academic attainment	“We haven’t done as much as we should have”	A sense of guilt for parents who have not been able to keep up with the standards of online schooling

3.3 Results: Teachers

Two main themes were extracted from the data. 'The children have regressed' explored the impact of the curriculum and school environment on pupil mental health. 'That child needs a bit of a lift' focused upon the importance of social relationships, inside and outside of the school environment (see Table 5).

3.3.1 Theme 1: 'The children have regressed'

This theme explored the ways in which the curriculum requirements and school environment can affect the mental wellbeing of pupils. It had four related subthemes, as outlined below.

Subtheme 1: 'Everyone is worried about keeping up with the curriculum'

This subtheme explored the pressures of curriculum expectations, which teachers believed all pupils faced: 'The pace of the curriculum was mostly what any child struggled with from any background or ability' (t3). All the participants pinpointed keeping up with the curriculum as a negative factor in pupil mental health: 'Everyone is worried about keeping up with the curriculum' (t4), with a lack of flexibility being highlighted by many: 'The curriculum is far too rigid' (t7). This rigidity was felt to restrict the ability of teachers to use their initiative to make the content more interesting and targeted: 'There's no freedom with the curriculum to make it relevant and engaging' (t2), or to respond to pupil need:

> *There is absolutely no room for it being child-led past the stage of reception. These children are still young and need child-led activities, there's just no room for that, especially in Year 2 because we are teaching to the test, which is obviously SATs[8] (t7).*

The difference in academic attainment between pupils was acknowledged: 'Those students who aren't naturally gifted tend to struggle in the school environment' (t2) and the inflexible curriculum was felt to be particularly challenging for pupils who experienced the greatest difficulties with learning. It was suggested that those children required a more tailored curriculum from an early age: 'Definitely a curriculum that is catered to the individual child, we need to start intervention as early as possible' (t6).

The school closures that resulted from the Covid-19 pandemic were seen to have resulted in many pupils falling behind curriculum targets: 'Now we have returned to school, it's very clear there are huge gaps in student knowledge' (t1). This was particularly marked for those who experienced

[8] Standard Assessment Tests (SATs) are standardised tests to measure the educational achievement of school pupils in Years 2 and 6. Pupils are required to sit both maths and English SATs.

barriers to learning at home: ‘Students who have faced issues with schooling as a direct result of Covid-19 are finding it difficult to keep up with the schoolwork’ (t5) and those who already had lower attainment levels: ‘Those children who were already below expectations are now going to struggle as they are another year behind’ (t9). Some teachers felt that younger children would be less affected by the attainment gaps: ‘I’m hoping [missing out] it won’t make much of a difference with them being quite young’ (t3). Most, however, expressed their concerns that a quick catch up would not be possible and that the affects would be felt in the longer-term: ‘I truly believe there will be a global dip in academic attainment within this year and for years to come’ (t7).

Subtheme 2: “a one-size-fits-all test”

The second subtheme explored the relationships between pupil mental health and exam pressure, in both primary and secondary schools: ‘The pressure to succeed, especially at GCSE, is definitely a huge factor in the mental wellbeing of students’ (t5). Secondary school teachers spoke of ‘constantly increasing target grades and data targets’ (t5) in relation to the Year 11 examinations and believed them to be an unfair one-size-fits-all representation of the individual pupil: ‘[the pupils have] a feeling of pressure to achieve an expected standard which is not adequately differentiated to ensure they can actually achieve it’ (t7). This was also the views amongst primary school teachers: ‘It’s beyond me why teachers are told to differentiate and then the kids sit a one size fits all test’ (t8). Further, some teachers expressed concerns that students were at a disadvantage in relation to specific subjects: ‘Particularly in the English GCSEs where the students achieve two qualifications, yet they are given the same amount of teaching hours as maths with one qualification’ (t5).

Similarly, primary school teachers referred to Standard Assessment Tests (SATs) as ‘just increased pressure for the parents, children and the teachers’ (t3). Children of different ages were thought to feel pressure regarding testing, not just those in Year 6: ‘the pressure of the phonics assessment in Year 1’ (t4). This was exacerbated by changing expectations and testing at an earlier stage:

> *Children were under the expectation that they would learn their times tables up to 12x12 by the age of 12, however, that age has been lowered to Year 4, which is ages 7 and 8. They now take a times table test at the end of that year (t7).*

Teacher concerns about the negative impact of exam pressures on pupil mental health increased following the school closures: 'I can tell they [pupils] are extremely worried for GCSEs this academic year' (t12). Given the extensive time period away from school, some secondary school teachers hoped alternative arrangements would be made for the academic year of 2021: 'I'm hoping the government and Department for Education allows more value to be placed on teacher knowledge rather than exam performance' (t7), whilst others simply wished for their students to have more preparation time 'I would just say they need more time before exams' (t11). Some primary school teachers believed that the school closures would have a prolonged impact and called for adjustments to be made over a longer time period: 'I think we should just scrap the SATs for the next two years and let children re-learn at their own pace' (t8). Likewise, for later exams: 'I believe that exam boards need to be more considerate of the fact students have missed a huge amount of teaching time and therefore must recognise the need to reduce the content of exams on both this academic [year] and possibly even the one after' (t5).

While all year groups were considered to be at risk of examination pressure, several teachers referred to their specific concerns regarding secondary school pupils' future prospects. This was both in terms of actual impact on learning: 'Students in Key Stage 4 and 5 are going to be impacted in terms of career progression and qualifications due to a lower quality of learning during lockdown' (t5) and the pupils' perceptions of their achievements:

> *For those who didn't sit their exams, I imagine they are at risk of suffering from imposter syndrome and they'll probably struggle when progressing onto higher education or into a competitive place of work (t2).*

Subtheme 3:'Younger children are struggling to adapt'

This subtheme explores the perceived impact that online learning was thought to have had on pupil mental health. Teachers expressed mixed feelings regarding the unfamiliar experience of online learning, with some believing it to be beneficial because it reduced the pressure on pupils: 'Probably just the smaller amount of pressure from online learning' (t1) and allowed them to work at a pace that suited them best:

> *There is now more academic support available for students in that the use of virtual learning techniques, such as Powerpoints, are being set on Teams. Meaning they have the opportunity to consolidate their learning at their own pace (t5)*

Most participants, however, considered the situation as being detrimental to learning: 'I have found that younger children are struggling to adapt to online sessions as they struggle to maintain their focus' (t7) and 'The children have regressed, as you would expect' (t13).

This was partly because children were not thought to engage as much with online learning: 'I know a lot of the children aren't quite engaging with content at home' (t10). In some cases, this was thought to be due to a lack of preparation on the part of schools: 'we need to be prepared for these children…we weren't prepared and it really has been the children that have suffered, no one else' (t10). The teachers also varied in the extent to which they felt confident in providing online teaching. Some saw benefits: 'I think…learning from home gives them [children] more freedom to interpret the lesson in whichever [way] they want and can manage' (t4). Others, however, experienced difficulty in providing engaging and fulfilling online lessons: 'I found it much more challenging working from home because I couldn't fully engage with the students, it felt clinical' (t2).

There was an acknowledgment that teachers needed to support parents as well as pupils, in order to make home schooling as successful as possible: 'teachers are obviously having to…support the pupils and parents as much as possible' (t7) and concerns about 'bombarding parents' (t4). As a result, some schools adopted a passive approach to ensuring the children completed the work: 'as a school we had put no pressure on students and parents to complete the work we set each week during lockdown' (t11).

There was reference to a digital divide, with some pupils being described as having difficulty engaging with home learning: 'Most are currently working around 2 full terms behind…they didn't interact much with home learning' (t3). This was worse for those who were already struggling academically:

> *Some children who have been learning at home during lockdown have done absolutely nothing and were already low ability, so progress is going to be extremely slow from now (t8).*

By contrast, it was thought that the move to online learning would have less of a negative impact on children who were considered to be academically more able: 'high ability kids who have completed home learning may be ok academically' (t8).

Subtheme 4: 'It's getting younger and younger, where children are feeling…anxious'

This subtheme explores teachers' perceptions of the anxieties which pupils faced throughout both the school closures and post-lockdown restrictions and how education staff tried to support them. Many teachers identified the negative impact that uncertainty had on pupils, before, during, and after the first school closures:

> *There was a sense of uncertainty around future closures, the national lockdown, cancelled exams and so on. Safety concerns were also present due to large bubbles and no social distancing in corridors (t2)*

The social distancing restrictions were considered to be particularly detrimental, even after pupils were able to return to school: 'It has absolutely had a negative impact on their mental health…students are not allowed to mix in the way that they usually would with their peers' (t5). Some primary school teachers felt that younger children may be more protected from negative impacts on their mental health than older pupils because they had a lower level of understanding of the situation: 'none of them are really fully aware of what's going on' (t3). It was, however, acknowledged that young children could also experience mental health difficulties: 'It's getting younger and younger, where children are feeling depressed or anxious' (t4).

Participants identified a range of measures which existed prior to the school closures to try and support pupil mental wellbeing. This included using school counsellors: 'We have a school counsellor which is here to support children that are more at risk of poor mental health' (t6), and the use of awareness weeks to communicate the importance of mental health: 'having different awareness weeks can really help the children understand situations, such as bullying and mental health' (t7). In some cases, new approaches were introduced as a result of Covid-19 and the associated restrictions: 'We have added mindfulness breaks into the day which could include talking, meditating, active breaks' (t3). In anticipation of further school closures, several of the participants discussed how they were focusing on the 'positives of lockdown' (t2) with their students in order to prepare them for a reoccurrence. Some

teachers, however, were uncertain about how best to support young pupils: 'In the classroom it's difficult to know what approach to take, we don't want to traumatise the children with them being so young' (t6). Overall, the impact of the closures was generally felt likely to be negative and long lasting: 'I think that, mental health wise, this could have a long-term impact on the children' (t6).

The teachers in the study acknowledged the importance of keeping in touch with pupils through online platforms throughout the school closures and providing regular feedback. There was also a focus on providing praise and encouragement when schools returned, as opposed to highlighting the curriculum content which pupils had missed.

3.3.2 Theme 2: 'That child needs a bit of a lift'

The second theme explored the importance of social relationships, both inside and outside the school environment, and the effect they have on mental wellbeing within school. It contained three related subthemes:

Subtheme 1: 'teachers need to be…good role models'

The participants consistently identified positive relationships between teachers and pupils as benefiting pupil mental health: 'positive relationships between teachers and students would have the biggest impact on maintaining good mental health' (t1). These positive relationships were thought to take many forms. Some aspects were thought to arise from supporting the academic development of the child. These included being pupil focused: 'I think it's just about focusing on the strengths of the individual pupil' (t5), providing small group teaching sessions and opportunities for after-school revision, reinforcing and encouraging pupils: 'I praise good behaviour consistently rather than simply disciplining those who fall short' (t2) and adjusting to the learning pace of the child: 'we have a working stage not age approach' (t6).

Recognising when a child needed additional emotional support was also important: 'Sometimes it is just that teacher identifying that the child needs a bit of a lift' (t4). The facilitation of open and safe communication was also seen as central to positive pupil-teacher relationships: 'Talking about mental health is vital. If you work with children, you need to find ways to talk to them about it' (t13). Pastoral staff were seen as having an important role in this respect: 'I would definitely say that time with pastoral

staff can be a positive factor for children' (t5). In turn, these conversations were felt to support mental health:

> *Pastoral time with myself as a form tutor… did ease or resolve friendship issues which I believe helped students with mental health issues' (t10).*

In relation to post Covid-19 restrictions and school closures, teachers varied in the nature of the support which they offered pupils. A small number offered revision sessions and private tutoring to boost the academic attainment of pupils. Most, however, simply focused on supporting the emotional wellbeing of pupils by adopting a positive outlook:

> *Teachers need to remain positive and be good role models rather than dwelling on lost learning (t1).*
>
> *All staff are just trying their best to keep a positive working environment really (t3).*

Positive reinforcement, consistent praise and behaviour management were all prevalent topics amongst the teachers, with most being in agreement that such methods can contribute to positive teacher and pupil relationships, which ultimately benefited pupil mental health:

> *It's important to give out as much praise as possible (t1).*
>
> *Positive reinforcement is absolutely huge in the classroom right now (t10).*

Subtheme 2: 'children are being told not to hug or play too closely'

The participants were consistent in the belief that strong peer relationships were of benefit to pupil mental health: 'friendships just kind of takes away the pressure that they feel in the classroom and definitely has a positive impact on them' (t8). Many expressed pleasure at the ease with which children formed friendships: 'my kids make friends really easily and it's nice to see that' (t10), with one metaphorically describing the pupils as 'magnets' (t4) because of the way they attracted others and maintained strong friendship bonds.

Many teachers acknowledged that seeing their friends can be the best part of the school-day for many pupils. School closures were seen as causing pupils to feel 'isolated' and the 'loss of contact with friends is detrimental because it supports their social and emotional development' (t4). Some participants also discussed the adverse effects that bullying, and peer pressure, can have on mental wellbeing:

> *Peer pressure and bullying can be a huge factor of negative mental health… I definitely think a whole-school ethos is needed to tackle these kind of factors (t7)*

There was concern about the ways in which the increased use of social media platforms outside of school could extend bullying beyond the schoolyard: 'There's always an argument going on in a group chat or on other websites. They write things anonymously about each other' (t2). Bullying was considered to be more of an issue at secondary school, whereas many primary school teachers reported having '[no] cases of bullying or things like that' (t11).

Despite children evidently feeling a sense of loss and isolation because of the school closures, many teachers described how their pupils struggled upon returning to school because of social distancing measures:

> *Pupils are not allowed to mix in the way they usually would with their peers… many younger students are missing opportunities to socialise within their groups and to engage in extra-curricular activities (t5)*

Government guidelines, which ensure children only socialise within their 'bubble' at school, were also seen as detrimental to pupils:

> *They have been quite disheartened at the reality of coming back to school in a controlled bubble environment (t5)*

> *They're now in bubbles, they have virtual assemblies, it's all just so new for them (t3)*

Notwithstanding the concerns for pupil mental wellbeing, most teachers expressed that their pupils were simply happy to be back in the school environment and able to see their friends once again, after such a lengthy time of social isolation: 'they're loving seeing and working with their friends' (t2).

Subtheme 3: 'Parental involvement is so important'

This subtheme explores the impact of family relationships on pupil mental health and how the school closures brought about new roles for parents. Many teachers discussed the importance of having a supportive home life and believed that children with positive role models showed more favourable characteristics: 'if they have supportive home lives then they tend to be a well-rounded character and manage to get on with their work and homework' (t7). Others, who disclosed that they work in a 'deprived area', expressed that children who do not receive effective support at home are more likely to struggle at school: 'If they don't have supportive parents, then it can be very difficult for a child to progress and succeed' (t7). This can be apparent from the early years at school: 'Often when they first join us, we have to prepare them for learning the way the average child would have been prepared by

their parents in the early years' (t6). Some teachers described situations where parents were 'heavy drinkers' (t12) and created a 'toxic situation' due to arguments (t11). In such situations, school was seen as an 'escape' (t10) for the children and strong home-school links were 'always helpful' (t6).

While unsupportive home lives are not experienced by all children, the school closures were felt to cause additional stress for parents who, overnight, were required to adopt the role of teacher. Participants considered that many parents struggled to home-school their children, in addition to their work, and other parenting responsibilities, and that this negatively impacted the pupils' mental health:

> *Parent frustration at home is having a huge negative impact on the children's mindsets…we're hearing a lot of parents say: "well I can't do this" and "how on earth am I going to do this lesson when I don't even know how to do it myself". That's then a reflection on the children and it's causing anxiety (t7).*

Some believed it was their duty as class teacher to minimise such an effect: 'it is up to the school to support them and help them to improve their mental health' (t3) whereas others believed parents should take more of a lead role: 'increased parental engagement could be beneficial long term' (t10). Despite mixed views on who should take the lead role in supporting pupil mental health, participants were unanimous that home life and support are large contributors to pupil emotional wellbeing.

3.4 Results: Pupils

Two main themes were developed from the pupil data, 'It's all tricky' which explored the impact of the curriculum on mental health and 'Fall outs and horrible teachers' which highlighted the role of school-based relationships (see Table 5).

3.4.1 Theme 1: 'It's all tricky'

This theme highlighted the impact of the school curriculum on the mental health of participants. It had four related subthemes as outlined below.

Subtheme 1: 'People sometimes get sad when they get like bad marks'

This subtheme explored the pressures that many participants felt from keeping up with the school curriculum: 'The main thing was the schoolwork, really' (p4). Almost all of the participants identified schoolwork as potentially stressful: 'I didn't like the schoolwork. It's all tricky. [It made me feel] Sad and annoyed sometimes' (p7). The pressures could come from the fast pace required to keep up with learning:

> *The curriculum was very fast moving, and it was hard to understand one topic before you had to move onto the next and I was worried it would come up in exams and I wouldn't know how to do it. (p1)*

From the number of topics to be covered and amount of knowledge to be assimilated:

> *I sometimes thought that school was quite stressful especially with the schoolwork as sometimes you don't always understand…and obviously when you're in secondary school you have loads of subjects to try and understand. (p10).*

Others identified specific subjects that they disliked or were not good at: '[English] I find it really hard' (p11) and how this could add to their stress: 'So, there's some lessons I don't particularly like because I'm not very good at and that kind of makes me stressed especially when it comes to homework' (p10). Being tested and the need to achieve high marks were highlighted as being particularly difficult:

> *Also, some people sometimes get sad when they get like bad marks…. I do think it would put you down quite a lot if it was happening all of the time though. Well, it might put me down a bit if it happened to me. (p9)*

> *I don't like doing tests and they give us a lot of them… when we get our results back there's time where I feel sad if I don't really do very well. (p12)*

Subtheme 2: 'There's no kind of like pressure'

The second subtheme explored the ways that participants experienced changes in their learning and associated curriculum-based pressures as a result of the school closures that resulted from the Covid-19 restrictions. The school closures were largely seen as a time when much of this pressure was lifted from participants: 'There's no kind of like pressure. My mam wasn't like waking me up for school every morning' (p9). The reduction in testing was also welcomed: 'I liked not having loads of work to do and there wasn't any tests, which we usually have weekly' (p12). Most participants continued to engage with schoolwork: 'I've still been doing the work at home because the teachers have been sending it to me'(p8), although some participants felt that the overall workload was reduced: 'It's been really nice to be off school because I haven't had as much work to do' (p10). Some had structured their day to create a balance between schoolwork and leisure: 'I would work until like 1pm each day then I would log onto my PS4 and chat with my friends. So, I never really missed out on anything' (p9). Learning at home could, however, be difficult: 'it's not easy to learn at home because there are lots of distractions' (p1).

Subtheme 3: 'Expected…just to be able to crack on'

This subtheme explored the sources of curriculum support for pupils both prior to and during school closures. As an obvious source of potential support, it was somewhat surprising that many participants rarely approached their teachers for help: 'Sometimes but not really' (p3). In some cases, participants believed that the teachers would respond negatively to requests for help: 'Just that the teachers expected of you just to be able to crack on and they'd get annoyed if you didn't understand, then I wouldn't want to ask for help' (p4). The approachability and personality of the teachers also influenced whether pupils would ask them for support:

> *We do have a house mistress and we're meant to be able to talk to her if we ever have any problems, but to be honest she wasn't very nice, and I really didn't feel comfortable actually going to her. (p5)*

The support that was available from teachers was somewhat mixed. Some participants found their teachers to be supportive and helpful: 'My teacher helps me' (p2). Others felt that the support was not available when it was most needed: 'The teacher sometimes helps if it's only a small test and they tell you it doesn't matter but on big tests, nothing really' (p12)

Prior to lock-down, many participants had turned to additional sources of help, such as after-school clubs: 'I went to homework club sometimes and liked that because the teachers helped you and then you didn't have to do homework at home' (p14). Others were more reluctant to attend: 'I did sometimes things like homework club and stuff, but I never really wanted to go to there, was just because my mam made me' (p6). Four of the participants reported receiving extra support from private tutors: 'Having a tutor to go through all the things I was stuck on' (p1). This additional input was seen as very beneficial: 'Sometimes I find maths hard but then I have extra lessons which helps me a lot' (p12). Help from tutors was also used in conjunction with other available sources of support:

> *I've got a private tutor who I work with outside of school and that tends to help with my maths and English. School do kind of like after-school clubs and things like that as well so we can go and ask our teachers if there's anything that we've struggled with that day. (p10)*

The level of support from teachers continued to vary during the school closures. Some pupils were fortunate and felt well-supported by their teachers: 'I've got a teacher who helps me with anything like this, so I've been able to kind of keep my work for my sessions with her that are online and this has massively helped' (p8). Others felt somewhat abandoned:

> *…the school just give us work and expected us to get on with it. With our English, we had started GCSE preparation the week before for our reading and listening and then we were just sent the work and expected to learn it without any teachers. (p13)*

Online teaching could exacerbate these issues at times:

> *I found it [online learning] really difficult…I don't really like my teacher anyway…and I just found that that was even worse online…I was always really scared in case he, like, asked me to unmute my mic and answer a question. (p5)*

Some pupils turned to their parents for additional help with their schoolwork: 'Mam helps me but sometimes it's quite hard' (p14). This was not always an effective strategy: 'I did try and do some schoolwork, but I didn't really understand it to be honest and my mam couldn't help me' (p6).

Subtheme 4: 'I want to stay off forever'

There were mixed feelings about the impact of school closures on academic outcomes. Some participants expressed a somewhat relaxed attitude to the changes. In some cases, this was because they felt they were up to date with their work: 'I've managed to keep up with all my schoolwork too, so I don't really worry about being behind when I go back' (p9) or were confident in their ability to catch up: 'I'm not really bothered to be honest. I am a little bit nervous to see if I fall behind my lessons, but I'm just hoping that I can catch back up straight away if I have' (p10).

Others were less sanguine and expressed some concern about the amount of work that had been missed: 'I am slightly worried about going back though as we've missed so much now' (p13) and how this would impact on their exam results in future: 'I do probably think that I'll be stressed as I'll be going into year 11 and obviously we have our GCSE's in like 10 months' (p13).

A few participants were very negative about the idea of returning to school because of the demands of the curriculum: 'Bad! I don't want to do the work' (p12). This was the case, even if the person had not particularly enjoyed the restrictions: 'I didn't like lockdown, but I like being off school …I want to stay off forever' (p2).

3.4.2 Theme 2: 'Fall outs and horrible teachers'

The second theme highlights the importance of social relationships, particularly with peers and teachers as both positive and negative influences on pupil mental health, summarised by one participant as 'Fall outs and horrible teachers' (p6). This has three subthemes as outlined below.

Subtheme 1: 'It helps when you have nice friends'

The participants were unanimous that having supportive relationships with peers is one of the most positive things about school: 'I think friendships is a huge one. If you have a good friendship group then I think life becomes much easier when you're in school' (p13) and is good for mental health: 'Definitely, it helps when you have nice friends, I think' (p9). When asked about the things they liked best at school, participants invariably identified friendships: 'Seeing my friends! We just played together at play times' (p2). It is, therefore, unsurprising that having less contact with friends was one of the things that the participants missed most as a result of school closures: 'I miss seeing my friends so much' (p1). Alternative ways were used to maintain connections with friends: 'I played with them on the xbox so it wasn't really bad, and I rang them' (p11). Social media was also often used to maintain social contact:

> *Yeah, so we all have Instagram and Facebook so it means that I can kind of speech them and I've been facetiming them but it's just not really the same as actually being able to see them. (p10)*

Subtheme 2: 'Someone called me an idiot today'

While friendships were seen as being a protective factor for mental health, negative peer relationships were associated with poorer mental health: 'So definitely, obviously friendships have a massive impact on mental health' (p13). At its mildest, this could be the result of a disagreement with a friend: 'I only get sad if I fall out with friends, really' (p12). Such fall-outs could, however, result in more serious bullying: 'Sometimes it's like if one person in the group falls out with someone then everyone does' (p13).

The majority of participants raised the topic of bullying as a negative aspect of school that could impact on mental health. This bullying often took the form of belittling others: 'Bullying. Being made fun of' (p11). Most had witnessed bullying: 'There is quite a bit [bullying] yeah. It's the boys that are quite horrible. They're horrible to the girls about things like their skin and their hair colour' (p13) and many had experienced it directly: 'Yeah, some people call people names. Someone called me an idiot today' (p7). This influenced how some participants felt about returning to school after lock-down:

> *Honestly, I'm absolutely dreading it. Because I didn't leave on good terms with the girls and they've continued everything through social media, so I'm just really worried that when I go back its going to be even worse. I don't want to go back. (p4)*

There was a recognised need for pupils to have a trusted adult that they could share their concerns with: 'Bullying, because it is a big problem for some people, and to make people like me who have anxiety feel like it isn't a huge problem and that it is something you can overcome with the right help' (p1), or even just help pupils to feel less isolated:

> *There's lots of bullies in my school and I was definitely feeling quite isolated before coronavirus. I was having quite a lot of problems at school, a lot of the groups were quite mean and quite nasty. And I definitely felt like I didn't belong there. So yeah, I definitely felt lonely but some of the teachers can be quite friendly and that does help. (p5)*

Some participants reported that schools had explicit systems in place to try to prevent bullying: 'Sometimes people can be quite sad in my school, the teachers help them and we have a buddy system so that everyone has someone to play with' (p13). Unfortunately, not all participants felt they could approach their teachers to confide in them about bullying:

> *Interviewer: Did you tell the teacher [about bullying]?*
> *Nah, they just don't like me, because of me I suppose. I don't like some teachers too. (p7)*

In some cases, interventions from teachers made the situation worse: 'The teachers tried to get involved but I would say that probably just made it worse. There wasn't really anything in school to help, no' (p4).

Subtheme 3: 'I love most of my teachers'

While not all participants had positive relationships with their teachers, as has been evidenced in previous themes and subthemes, their important role in making school an enjoyable place was repeatedly highlighted: 'I love most of my teachers and they really help make the lessons fun and then school is actually enjoyable' (p13). By contrast, a poor relationship could put pupils off school: 'A negative relationship with teachers can make you not want to go to school' (p10).

Many participants spontaneously reported how much they liked their teachers: 'I liked them, I have a nice teacher' (p3). Teachers who were considered to be unpleasant, were contrasted with the majority who were liked: 'Just that the other teachers were nice and he wasn't really nice to anyone to be honest' (p6).

Subtheme 4: 'We've spent much more time as a family'

With the school closures, the relationships with teachers and peers became less prominent and the relationships with family members became more so: 'Just my mam and sister. It's nice having them home' (p4). Many of the participants commented on the benefits of this: 'It's been really nice to have a break from school and we've spent much more time as a family' (p13). The lockdown meant that some parents were at home at the same time as the children, which was reassuring for them:

> I'm getting to see my mam more too which is nice as usually I only see her on a night or on a weekend, but she is off work at the minute which made me feel a bit better. (p8)

Having family around did not completely remove the feeling of missing friends, but it did help: 'Obviously, I did miss seeing my friends properly, but it wasn't too bad as I still got to talk to them and my sister was here too' (p9).

Many families established new routines and activities. This often centred around outdoor activity: 'Nice being with family just going out for walks really, like we just took the dogs out' (p5). The reduced schoolwork left more time for other daytime activities: 'Doing things like going for walks and baking and there isn't as much work to do at home as there is at school' (p1). Other activities were moved online: 'Dancing online has been a huge help, I think' (p13).

By contrast, some participants described enjoying the lack of routine: 'Yes! I liked not doing the work all the time, I didn't really do much at home' (p7), spending increased time in bed: 'It's been quite nice just doing work from home and getting out of bed whenever I want' (p8), and on social media: 'Probably just spending a lot of time on my phone and iPad' (p10). While most participants seemed to enjoy the more relaxed regime, others were bored and under-occupied as a result of being off school: 'I hate it [lockdown]. I can't go to dancing or football at all which means that I can't really see my friends. And I'm just really bored to be honest' (p8), and were desperate to see friends and teachers again: 'I've been really bored lately so I think it'll be quite nice to get back and actually see my friends and teachers' (p10). This did not, however, mean that all participants wanted to return to school. Some were willing to forgo the benefits: 'I liked seeing my mam more too…I did get bored though, but I'd still rather be off than at school' (p12), although they would miss their friends '…'I think I'd rather be off to be honest, but I wouldn't want to not see my friends again' (p6).

3.5 Results: Parents

Two main themes were developed from the parent data, 'I am worried about the lack of interaction', which explored the impact of social relationships on mental health and 'Why should I bother if I keep getting it wrong?' which highlighted the difficulties pupils face regarding the school curriculum (see Table 5). Both themes consider the effects of school-related factors on mental health pre- and post-Covid-19 restrictions.

3.5.1 Theme 1: 'I am worried about the lack of interaction'

This theme highlights the impact that social relationships can have on the mental health of school pupils. Three related subthemes are outlined below.

Subtheme 1: 'They have struggled with feeling isolated'

This subtheme explored the views of parents in relation to their children's friendships. Parents were unanimous in the view that positive friendships are important for the wellbeing of their children: '[My child] has a lovely strong friendship group and that also kind of helps her to stay positive everyday' (pa2) and can act as a protective factor at school: 'as long as they make good friendships, I feel like they can get through school pretty easily' (pa5). There was a belief that having such friendships can improve levels of confidence: '[My child] has a really good group of friends, this definitely brought on more confidence' (p6).

By contrast, pupils who struggled to form and maintain friendships displayed negative emotions towards the school environment, with parents reporting they were reluctant to attend: '[my child] didn't like going to school for a while because of bullies and just people in general not being nice' (pa11). Bullying was also seen as being detrimental to the self-esteem and confidence of the child: '[my son] has really shut down and really struggles with mental health issues, a huge lack of self-esteem and just feels in a very dark place a lot of the time' (pa10). Many parents felt that little support was available from school staff in relation to bullying and that parents must be there to 'pick up the pieces' (pa7).

The school closures were seen as resulting in many children feeling isolated, with most parents expressing concern for the wellbeing of their child due to a lack of personal contact:

> *They have struggled with feeling isolated from friends and not being able to have that face-to-face interaction with teachers and peers(pa3).*

> *It has been really hard watching her suffer from missing such a close connection in a school environment (pa11).*

There was concern that the prolonged school closures would lead to children becoming afraid of interacting with others in person: 'I'm actually very concerned that children will be scared to have physical contact with people' (pa5). Others were hopeful that any detrimental impact would be reduced once the schools re-opened: 'I am worried about the lack of interaction with friends during lockdown, but I'm hoping this won't matter once the schools are back' (pa8)

Some parents encouraged their children to use social media to keep in touch with friends: 'I think as long as children stay connected with friends…there will be very little impact' (pa6), although this was seen as a poor alternative to actually seeing their friends: 'They're allowed facetime and does have social media to keep in touch with people, but I just don't think it's the same as having personal contact' (pa8). Other parents did not permit the use of social media due to factors such as the age of their child, but hoped this would not have a long-term negative impact: '[My child] isn't allowed social media for certain reasons and hasn't been able to keep in touch with friends… Hopefully she will be able to catch back up where she left off when school goes back' (pa10).

Subtheme 2: 'They're very calm and understanding'

The second subtheme explored the ways in which parents believe that teachers can contribute to the mental health of pupils. Participants mostly spoke of positive experiences in relation to their children and teachers:

> *[My child] has lovely relationships with her teachers, they're very calm and understanding of her lack of self-confidence so this really helps to reduce the anxiety she has about going to school (pa3).*

> *I'm happy that my child goes to a positive school with uplifting teachers and staff (pa6).*

Praise and encouragement were identified as important in fostering a positive environment: 'praise that they are given, like pupil of the week and things like that, can really spur the kids on' (pa1), as well as supporting the individual strengths of the children: '[my child] having a schoolteacher who recognised that he was gifted in sports…greatly reduced anxiety and improved his mental health' (pa2). Being available to support children emotionally was also deemed essential: 'I just feel that as long as our

children feel comfortable to discuss issues with parents and teachers…it will hopefully have a positive impact on mental health' (pa12).

Several parents also acknowledged the impact that a negative child-teacher relationship can have: '[My child's] teacher is very old school and can be quite intimidating…she is so scared of getting things wrong because he is very snappy' (pa12). Such a relationship was viewed as potentially having a long-lasting effect on a child: '[My child] was basically victimised by a teacher…I still see the effects to this day' (pa9).

Subtheme 3: 'Those children who don't have supportive parents, school can be a harder time'

This subtheme explored the role of parental support and how this changed during the school closures. Many parents expressed their belief that a positive home environment is beneficial to the mental health of a child: 'I believe that good support at home can be a positive factor and for those children who maybe don't have supportive parents, school can be a harder time for them' (pa10). The important role of parental support was often described in the context of limited support in the school environment, particularly in relation to facilitating friendships:

> *I think it's just important that as a parent I support her as much as possible, I wouldn't really say there's anything in school to support them friendship wise (pa1).*

> *I don't really believe there is anything in place for children who may struggle with friendships, apart from support at home (pa6).*

In light of the COVID-19 pandemic, the school closures altered the lives of both parents and pupils almost overnight, with parents quickly having to adapt to home schooling whilst also often working from home. Some parents described their enjoyment of supporting their child from home and viewed the school closures as providing an opportunity to have valuable family time, that they would not have otherwise experienced:

> *[My child] has been at home throughout this, which has given her some comfort. She has been able to spend a lot more time with me and her dad than what she usually would. She has really enjoyed being off school (pa3).*

Home-schooling was also seen as beneficial to the education of some children: 'My child seems to thrive in a home learning environment, she is discovering new ways of learning' (pa2). Others, however, expressed concerns regarding their ability to effectively home school their children. It was apparent that

the main reason for this was due to parents themselves having to manage full-time jobs from the home environment, something which was novel to many: ‘Probably just spending more time at home, but I work and so does her dad, so I don’t think there’s been many positives' (pa1).

3.5.2 Theme 2: ‘Why should I bother if I keep getting it wrong?’

The second theme outlines how the pressure to keep up with the curriculum can affect the mental health of school pupils. This has two subthemes which are highlighted below.

Subtheme 1: ‘He’s been behind since reception’

This subtheme explored underachievement amongst pupils and the anxiety associated with this. Most parents expressed concerns regarding their children being behind in terms of the curriculum, prior to the covid-19 school closures: ‘I was always worried about [my child] falling behind as he’s been behind since reception’ (pa4). Struggling with the curriculum appeared to be a common occurrence, with many participants explaining that it contributed to poor mental health: ‘…this then led to a complete lack of self-confidence’ (pa9). While parents recognised that their children were falling behind, many believed their children were not aware of any problems and expressed relief regarding this: ‘I’m not actually sure she realised she was behind, which I suppose is a good thing’ (pa4). For those children who were aware, parents described the resulting disengagement: ‘[My child] just thinks “why should I bother if I keep getting it wrong?”’ (pa10). Worries regarding underachievement were increased because of the school closures. Parents expressed concern about the long period without face-to-face learning: ‘I’m really worried that [my child] has missed a year of schoolwork’ (pa6) and the associated negative impact on their children’s progress: ‘I feel like they’ve declined quite a lot’ (pa4).

While many parents worried about the short-term consequences of the school closures, some also spoke of their child’s future prospects being affected: ‘With exams being cancelled I feel it could affect job prospects when they are older’ (pa2). Parents also offered some suggestions in relation to catching up on lost learning, including allowing the children more time during exams: ‘I think it’s just a case of allowing more time for children to maybe sit exams’ (pa7) or to re-sit the whole year: ‘I also think putting children back a year so they can relearn anything they should have covered’ (pa2).

Subtheme 2: 'We haven't done as much as we should have'

This subtheme highlights inequality of access to educational support, both pre and during the pandemic. Before the pandemic, access to resources, such as homework clubs, was not perceived as being available for all children: 'I think there should be more clubs available to help with schoolwork' (pa6). As a result, some parents who could afford to, turned to private sources of help, such as private tutoring: 'private tutoring works really well because she gets to learn in the comfort of the sitting room' (pa3) or private schooling: 'we actually chose to send her to a private school as we didn't believe she would get the support she so desperately needs in a state school' (pa11).

The move to home schooling and online learning as a direct consequence of the COVID-19 pandemic also highlighted some inequity. Many parents expressed worry about their ability to provide adequate home schooling for their children. This was often due to their own lack of confidence with the curriculum: 'when it comes to homework she really struggled and neither or her dad could really help her' (pa10). Parents varied in their ability to support their children's learning: 'I admit we haven't done as much as we could have, we haven't had a huge focus on schoolwork…she is starting to become a little nervous about going back to school' (pa4). Some parents could afford to compensate for this by paying for additional help: '[My child] has started to work a little bit with a tutor as I really struggle to home school' (pa6).

Those children who were able or supported to engage effectively with home schooling and online teaching were seen as being at an advantage: 'I do believe that [my child] managed to keep up with the work quite well so I'm hoping that this [school closures] won't have too much effect when the schools return' (pa7), while those who were already experiencing academic difficulties were seen as being likely to be even more disadvantaged when the schools re-opened: 'I believe those children who weren't academically able before this will hugely struggle with the curriculum when schools return' (pa3).

3.6 Discussion

The aim of this study was to explore the views of parents, pupils, and teachers in a qualitative manner in relation to school-based psychological well-being. Across all participant groups, there were two prominent themes: 'Academic attainment' and 'The importance of peer relationships'. Whilst views

were contradictory between participant groups, for example, some pupils viewed the school closures as a sense of relief as opposed to teachers who were concerned about maintaining academic attainment, the main themes were clear across all participants and provided an insight into the different experiences during the school closures.

Government expectations are measured using assessments at different points in a pupil's academic life and age-related standards have been reported to have a negative effect on pupil mental health (van Batenburg-Eddes & Jolles, 2013). Before the Covid-19 pandemic, underachievement was known to be a problem within education (Smith, 2008). Previous research shows that pupils who show a gap in their academic attainment by the end of Key Stage 2 are unlikely to catch up with their age-expected peers by Key Stage 3 (Department for Education, 2015). It is, therefore, unsurprising that the teacher participants expressed concerns about the impact that the school closures would have on the mental health of children, in terms of falling behind in the curriculum. Teachers reported that some younger pupils and those who were already struggling before the school closures had difficulty engaging with online learning. Many felt that this was likely to widen the academic attainment gap already prevalent within the UK school system and contribute to pupil anxiety, this correlates with the literature stating Key Stage 2 children show significant signs of stress in the approach to SATs (Connor, 2003) and that GCSE pupils believed the examinations to have a major impact on their future prospects, creating a heightened sense of anxiety (Denscombe, 2000).

Whilst the concerns of parents in relation to academic attainment were slightly different to that of teachers, it was still a prominent discussion point in the interviews. Many of the parents in the present study expressed concern about the level of support they were able to provide to their children in relation to their schoolwork. This was consistent with research by Sapungan and Sapungan (2014), who highlighted that not all parents are able to provide their children with a supportive home environment in relation to their learning. In contrast to our study, however, the authors partly attributed this to a "we-don't-care-attitude" on the part of some parents and their inability to understand the importance of supportive parenting in relation to academia. More recent literature suggests that home-schooling was an emotionally challenging time for parents in which stress levels were heightened (Khan, 2022). This could relate to earlier research conducted by Gentry (2011) which reported that almost one third of

students believed that their parents have no understanding of how they are doing in school and one sixth of students feel that their parents do not care whether they achieve good grades in examinations. The author also suggested that disengagement from parents can promote school failure and can contribute to a generation of children who are less well-educated than their parents.

The school closures were an unprecedented situation in which parents were required to take on the role of their child's teacher, some with little support. It is also apparent that the school closures made inequalities in education more prominent with children from low-income families being more likely to have experienced limited access to technology (Van de Werfhorst, 2021). These differences were also highlighted by the participants in the present study. Those with the resources, used private tuition for their children during the school closures, while others could not afford to access this type of additional support, despite feeling that their children were falling further behind. Previous research suggests that children who are entitled to free school meals are 28% less likely to achieve the standard level of GCSE's (5 GCSE's A*-C) than their wealthier classmates (Francis-Devine et al., 2022). Children who experience socio-economic disadvantage are also more likely to experience mental health difficulties (Kirby et al., 2020). Further to this, research conducted in China suggests that parents believed young children's lack of self-regulation to be a barrier to online learning during the pandemic (Dong et al., 2020) and this could have exacerbated the challenges parents faced. Despite the challenges faced throughout the school closures in relation to social isolation, the respite from curriculum demands was identified as one reason why some participants wanted school closures to continue, despite finding other aspects of the lockdown difficult. The findings from this study correlate with the work of Larsen et al. (2022), whose study found that the emotional well-being of pupils may have been improved during the school closures, this is thought to be due to children receiving more attention and support from parents and spending more time together as a family. Further research in this area by Soneson et al. (2022) found that more sleep and less exercise, reduced bullying, and better management of school tasks were contributors to improved mental well-being.

Teachers were seen as a fundamental point of support for both pupils and parents throughout the school closures. However, it is apparent that the support for academic difficulties that was perceived to be available from teachers varied markedly, both pre- and post-school closures, with some

participants finding teachers to be approachable and helpful, while others felt discouraged from seeking help and abandoned. The learning environment created by teachers has previously been found to influence pupil mental health. James et al. (2008) found, in a systematic review of qualitative studies, that positive relationships with teachers are critical in promoting pupil psychological wellbeing, feelings of safety at school, and school attendance. Teachers who provide effective classroom structures and behaviour management (Lopes et al., 2017), relevant content, clear learning goals, and frequent feedback (Waldrip et al., 2014) can help create a sense of security for pupils. By contrast, consistently negative pupil-teacher relationships have been shown to cause lower self-esteem and higher levels of mistrust amongst pupils (Patterson et al., 2000; Roffey, 2012).

Peer relationships were highlighted by participants as being an important contributor to mental health, with teachers and parents believing that school can be a more positive experience for those who are at ease forming and maintaining friendships. This is consistent with previous research that pupils who experience positive peer relationships in the school environment are more likely to experience positive outcomes, including better mental health and emotional adjustment, improved academic performance and successful relationships into adulthood (McGrath & Noble, 2010). Similarly, strength of peer relationships within the school-setting has been found to be related to depressive symptoms, with weak relationships being associated with depressive mood amongst adolescents (Boulard et al., 2012). In line with the findings of this study, pupils who are chronically rejected and isolated from peers are more likely to display low school attendance and achievement, problematic behaviour, depressive symptoms, and poor relationships success (Buhs et al., 2006; McDougall et al., 2001). Most of the participants in the present study highlighted fall outs with friends and bullying as school related factors that could negatively impact on mental health. Bullying is common in schools across Europe, with a recent study finding 18.2% of elementary school children were victims of bullying, and that it had a detrimental impact on mental health, including on depression and anxiety (Husky et al., 2020).

For children unable to attend school, this also meant a loss of personal interaction with their peers. Relationships at school were highlighted by pupil participants as being important for their mental health, with many using social media to maintain contact with their friends during school closure. Recently, Buchanan et al. (2022) found that school closures hindered the opportunity for children to

play, learn, and socialise and this led to a sense of boredom and loneliness. In relation to this, Morgül et al. (2020) found caregiver reports of increases in their children's screen time in the UK, during lockdown. This may, not, however, be detrimental, as Ren et al. (2021) suggest that screen time was an important way for young people to maintain peer relationships and obtain support while away from school. Online methods were also seen by teachers as useful for facilitating ongoing contact between friends during the school closures.

While being unable to access school was thought to be detrimental to pupil mental health, it is clear the return to school in September 2020 was not without its problems. The findings suggest the social distancing measures that were put in place when schools reopened were seen as challenging. There have also been reports of increased irritability, disturbed sleep, and clinging behaviour amongst young children as a result of the pandemic (Singh et al., 2020) which was seen as a detrimental factor to the children returning to school.

3.7 Implications for Practice

The Covid-19 restrictions have resulted in many pupils engaging less with learning. The results of the current study suggest that adopting a less structured and pressured approach to the curriculum and testing can help pupils feel more safe and secure within the classroom, ultimately benefiting their education. Teachers can also help to promote pupil mental health by offering secure, positive pupil-teacher relationships and a safe learning environment (Hindman et al., 2010). The findings from the present study suggest that it is now more important than ever for pupils to feel supported by their teachers and that they have a safe place to discuss their worries. Providing specific support mechanisms, such as mindfulness techniques and opportunities for counselling and pastoral support may also help pupils to address specific concerns that they have (Mendelson et al., 2010; Zoogman et al., 2015).

Teachers also need to look after their own mental health in order to be emotionally available for their pupils, as teacher stress can influence pupil wellbeing (Glazzard & Rose, 2019). Both pupils and teachers have had to adapt to a 'new normal' as a result of Covid-19. The move to remote learning has been a significant challenge which was exacerbated by pupils' varying levels of engagement (Borup et al., 2020). Researchers have found that many teachers have felt 'emotionally overwhelmed' by the changes they experienced and felt that remote education was harmful to their professional identity (Kim

& Asbury, 2020). Teachers, therefore, also need to be supported to maximise their mental health under extremely challenging circumstances.

In relation to pupil views during the school closures, relationships with family members became relatively more important, with many participants identifying increased time with their family as a benefit of the restrictions. Tang et al. (2021) found that participants in their study who viewed the lockdown as having benefits, such as spending more time with their family, reported lower levels of mental health symptoms and higher life satisfaction. The authors suggest that helping children and young people to find the benefits of Covid-19 restrictions may help protect them from developing poorer mental health. The authors also found that those participants who had discussions with their parents about the Covid-19 pandemic reported lower levels of psychological distress, suggesting such conversations may also act as a protective factor. Applying this beyond the Covid-19 pandemic, this research suggests that both teachers and parents could play an important role in promoting better mental health in children by having meaningful and open conversations with them about challenging situations, and supporting them to find positive aspects of them.

Our study found that most, but not all, participants reported engaging in regular activities with their families. Research by Ren et al. (2021) suggests that maintaining daily routines and engaging in physical activities on a regular basis helped protect children from developing depressive symptoms during Covid-19 restrictions in China. While the result was found in the context of an association between rates of infection in their community and depression, maintaining routines and physical activities may play a more general protective role. Again, parents and teachers can help children to find creative ways to maintain previous structures and activities and to develop new ones in order to protect their mental health.

The findings from this study suggest that pupils differed in their responses to the national lockdowns and school closures, with some experiencing the benefits of reduced curriculum pressures, escaping from bullying, and increased time with the family. By contrast, others missed their friends, experienced boredom, and worried that they would fall behind in their schoolwork. Previous research has demonstrated that curriculum pressure, peer relationships, and teacher influence (Hughes, 2020) can have both a negative and positive effect on pupils. Adopting a less pressured approach to the

curriculum during and after lockdowns and allowing pupils adequate time to adjust back into school-life and the curriculum could ultimately benefit pupil mental health.

It is also important to note that some pupils experienced their teachers as being unsupportive and difficult to approach for help, both pre-and during Covid restrictions. Teachers already faced significant pressures in delivering the curriculum and maintaining good pupil progress prior to the pandemic and the school closures have further negatively impacted on teacher stress (see Kim & Asbury, 2020). Teacher stress can reduce pupil wellbeing, both by acting as a barrier to good classroom practices and because children are aware of their teacher's mood (Glazzard & Rose, 2019). It is, therefore, crucial that teachers and other school practitioners continue to provide a positive learning environment for pupils, during and after the school closures. Research suggests that teachers have turned to each other for support during the Covid-19 restrictions, but would benefit from receiving greater communication, consultation, clarity, and consistency in relation to government policy and responses to the pandemic (Kim & Asbury, 2020).

Finally, the implications from parental views must be acknowledged. The findings from this study suggest that the experiences of pupils during lockdown could differ greatly. Some participants reported that their children thrived in the new circumstances, largely because of reduced curriculum pressures and increased time with the family. Other participants expressed concern about their child's academic progress, boredom, and limited social interaction. Inequity of access to educational support was apparent, with some participants, turning to private tuition for extra help for their children during the school closures. This indicates that a less-pressured approach may be suitable for when children return to the classroom, with a reduced focus on examinations and achieving targets and an increased focus on allowing pupils the time they need to adjust back to school-life and re-establishing relationships with friends and teachers. The school closures allowed many pupils to spend more time in their home environment with immediate family, with many participants regarding this as a positive aspect of the lockdown restrictions. Research suggests that focusing on the benefits of the pandemic may help to reduce the negative impact on mental health (Tang et al., 2021). Both parents and educational staff could help pupils to adapt to the novel situation by helping them to find the benefits of the Covid-19 school closures.

3.8.1 **Implications for a new measurement tool**

One of the key aims of this study was to provide information to inform the content and face validity for a new measure of SBMH to be used in mainstream schools, inclusive of those with SEN. The main themes, which were common to pupils, teachers, and parents, outlined in this study, 'academic achievement' and 'social relationships', are consistent with the results outlined in the previous chapter of this thesis. This also found peer and teacher relationships and academic attainment, to be important contributing factors SBMH, along with socio-economic status. These findings, in line with those outlined in Chapter Four, will be used for the purpose of creating the items for the new measure of SBMH.

3.8 Limitations of the research

The study did, however, have some limitations. The results may have been influenced by the time period that the interviews took place. The interviews were conducted between June 2020 and September 2020, during the first school closures in the UK. The schools subsequently closed for a second time and interviewing participants during the second period of school closures could have resulted in different findings. Further to this, information about the academic performance, socio-economic background and home environment of the participants was not collected and these factors are likely to influence their experience of school closures. Fegert et al. (2020) described three groups of children who differed in relation to how they coped with the government restrictions. The first enjoyed the experience of being off school, the second reported mild levels of adversity due to lack of educational resources and social interaction, the third struggled with being away from school due to poor parental support and a difficult home life. While there was mention amongst some teachers regarding their school being situated in a 'deprived' area, most of our participants appear to reflect the views of pupils in the first two groups.

4.0 Chapter 4: Parent interactions in online discussion forums: a topic model analysis

The previous chapters of this thesis have outlined several potential contributors to SBMH. These include academic attainment, teacher and peer relationships, parental involvement, and individual differences. It is known that parental engagement can be effective in supporting the mental health of children, with parents who show an understanding of their child's education and mental health being seen as stronger sources of support, in turn promoting better child self-esteem and confidence (Ruholt et al., 2015). However, it is also reported that parents often do not feel equipped to understand and deal with MHD (Coyne et al., 2015) and children whose parents are not well-engaged in their education and mental health are at heightened risk of experiencing poorer educational and psychological outcomes (Wang & Sheikh-Khalil, 2014). This study aims to explore the discussions parents are engaging in, in relation to the mental health of their children. The findings from this study will contribute to the face and content validity of the new measurement tool, which is outlined in Chapter Five.

4.1 Introduction

Despite the rapidly growing phenomena of MHD in children and adolescents, it is known that few young people receive the professional, evidence-based treatment they require (Frith, 2017) and this has led to the use of mental health prevention programmes and measures (Stormont et al., 2009). Although such measures are widely utilised, MHD are still increasing in CYP, and it could be suggested that practitioners and researchers are missing key information as to what affects the mental health of young people. Rones and Hoagwood (2000) believed it beneficial to include teachers, parents, and peers in the implementation of mental health support; as it stands, however, no measures to date are built on the views of parents and what affects the mental health of their children.

One study conducted with participants in France and Israel found that parents have turned to using online forums to voice their concerns regarding the education setting of their children (Chen et al, 2014). Given that the internet provides a platform in which there are no geographical limitations and support is offered around the clock (Chan et al., 2016), it is apparent that some parents have turned to the emotional and informational support forums have to offer (Prescott et al., 2017).

4.1.2 The current study

Previous research and the results of the studies outlined in chapters two and three offers insight into how the mental health of children is being affected in school settings. However, it is clear MHD among pupils are still increasing, despite the vast number of measures and interventions now available (Fazel, 2014). It could be suggested that an additional approach to understanding pupil mental health within the school setting is needed to contribute to the design and validation of future measures and interventions.

The previous research concerning the factors affecting the SBMH of pupils consists of agendas mostly set out by the researcher, using questionnaires, self-report measures, previous literature and interview schedules. Whilst the results do go some way in identifying the factors affecting SBMH, a limitation of the previous research is that a small number of studies were included in the systematic review due to the restrictive nature of search strategy. Also, a small number of participants were recruited for Chapter Three due to the qualitative nature and time restrictions when transcribing interviews. Chapter Three also highlighted that pupil, parent and teacher views on SBMH can vary. Given that there is a wealth of literature available regarding teachers and pupils and SBMH, it is appropriate to explore the views of parents in-depth, considering the ways in which parents may reach out to each other for support through online forums (Prescott et al., 2017).

One way to provide a more detailed evaluation of the conversation's parents have on forums is by analysing the latent structures of conversational themes or topics. This can be conducted through topic modelling, which is a data-intensive approach to content analysis and can allow for a much larger and more comprehensive overview of the factor's parents associate with SBMH. By exploring conversations between parents on forums, a more honest and immediate insight into parental concerns over a number of years can be achieved. Although the semi-structured interviews conducted for the purpose of Chapter Three were useful in terms of contributing to the content validity of a future measurement tool, they do only provide a snapshot of the concerns parents have at the time of the interviews and using topic modelling to gain a more comprehensive understanding will allow for triangulation of the previous results highlighted in this thesis (Noble & Heale, 2019).

In light of this, the aim of the current study is to explore the factors affecting pupil mental health in UK schools by analysing the topics discussed in publicly available forums over the past decade using quantitative topic models.

4.2 Methods

4.2.1 Ethical approval

The study was approved by the researcher's University Ethics Committee (33122), data was extracted from a publicly available forum and was anonymised before use. No login data was required to access the forum and usernames were redacted upon data collection.

4.2.2 Netmums forum

The researchers decided to scrape data from the open-access forum Netmums (NM). It was originally considered that data should be scraped from school-based forums but this was deemed unpractical due to consent and access issues. Furthermore, a large majority of forums are USA based, where the education system is very different to that of the UK. As such, due to the popularity of NM, it is believed that this one UK forum provided an appropriate, cross-sectional collection of parental views. NM is a publicly available forum and focuses on content based in the UK, including but not limited to, schooling, pregnancy and general support. The forum was founded in 2000 and, despite the name only referring to mothers, is used widely by parents across the UK, including fathers. A forum such as this was deemed a good fit for the purpose of this study due to literature outlining that forums are one of the most widely-used tools on social media sites for parents to engage in discussions regarding the health of their children (Hamm et al., 2014). No demographic information regarding the users was collected. Permission did not need to be collected from the forum to scrape the data due to it's open access nature. Furthermore, the website's robots.txt, a file found on web servers that outlines the permissions of automated web scraping and indexing tools, did not prohibit the scraping procedure.

4.2.3 Data extraction

All forum posts (including their replies) containing the word "school" were identified on the online forum NM. It was deemed appropriate to use the singular world "school" in order to cast a wide net on the topic. This allowed the researcher to capture as much information as possible and for the

mathematical model to work more efficiently. A browser-based web scraping tool, webscraper.io, was used via the developer tools in Google Chrome to scrape these posts into a database. The database entries were then compiled into JSON format for processing and analysis using Python 3.7 64-bit. This resulted in 690 unique documents.

4.2.4 Data preparation

Topic modelling is a form of statistical modelling which is able to identify latent topics within a range of documents through a quantitative text-mining technique. For the current study, the aim was to model the semantic structures within the forum conversations on NM surrounding schools in the UK. The most common topic modelling technique, Latent Dirichlet Allocation (LDA), was utilised by the researcher's second supervisor to model the data. Due to the computing intensive nature of the LDA procedure, it was deemed appropriate for the second supervisor to conduct this process due to their access to high-performance computing equipment, something which the researcher did not have. LDA is known to be an effective way to identify latent topics from a large data set without the need for training data (i.e., labelled example data) and it can also provide insight into the main themes among the data. One downside to using topic modelling for this approach is that LDA ignores word order and context and thus human interpretation is needed to interpret the outputted models in a meaningful way.

The initial step in this process was to pre-process the text in each document to remove punctuation and common words (e.g., 'and', 'but', 'if'), otherwise known as 'stopwords'. Standard US-English stopwords provided by the Natural Language ToolKit (NLTK) in Python were used and expanded to include common words associated with the search (such as school, son, and daughter). Usernames associated with the posts were not collected to protect anonymity. Next, each token (i.e. word) was lemmatized, or broken down, to find its root word in each post, an example of this would be: email, emailed, and emailing should be recognised only as 'email'. A natural language processing package, Genism, was used to create bigrams and trigrams, which are two- and three-sequence words, to ensure word couplets were contained as one entity (for example 'single parent' would combine to 'single_parent'). Further, words that appeared too regularly were unlikely to be meaningful in topics

and were filtered out so that any words that appeared in >80% posts were removed. Words included in this process were mostly connecting words, such as "an"", “or” and “but”. The researcher also screened a subset of the terms and removed any irrelevant words.

4.2.5 Data analysis

When evaluating the quality of topic models, coherence, which is the term for the mathematical value of how good a model fits the data, is a common metric, and this was used to guide the final model. LDA models were run using combinations of hyper parameters[9], these can be found in Appendix 4.

643 (1-15 topics * 7 alpha parameters * 6 beta parameters) iterations of the LDA procedure were then run in genism. Table 6 summarises the top 6 models and their parameters, along with their coherence score. Coherence metrics alone do not always equate to the most meaningful models, and it can be seen in Table 6 that models with between 13 and 6 topics have the highest coherence scores. Upon further inspection, however, many of the topics within the models are very closely related, lacking semantic sense as discrete topics. Given this, it was decided that a 3-topic model would be most appropriate, being able to strike the balance between meaningful clustering, and coherence (C_v = 0.50).

Table 6. Configuration of the top 6 Topic Models

No of Topics	Alpha	Beta	Coherence (C_v)
13	0.21	0.81	0.64
12	Asymmetric	0.61	0.59
9	0.21	0.61	0.58
8	0.01	0.81	0.57
6	0.81	0.81	0.53
3*	0.41	0.81	0.50

*Topic model chosen for the purpose of data analysis

[9] Hyper parameters are configurations that are determined by the user before running the topic model. These act as tweaks to the weightings and should be adjusted until the most accurate setting is found.

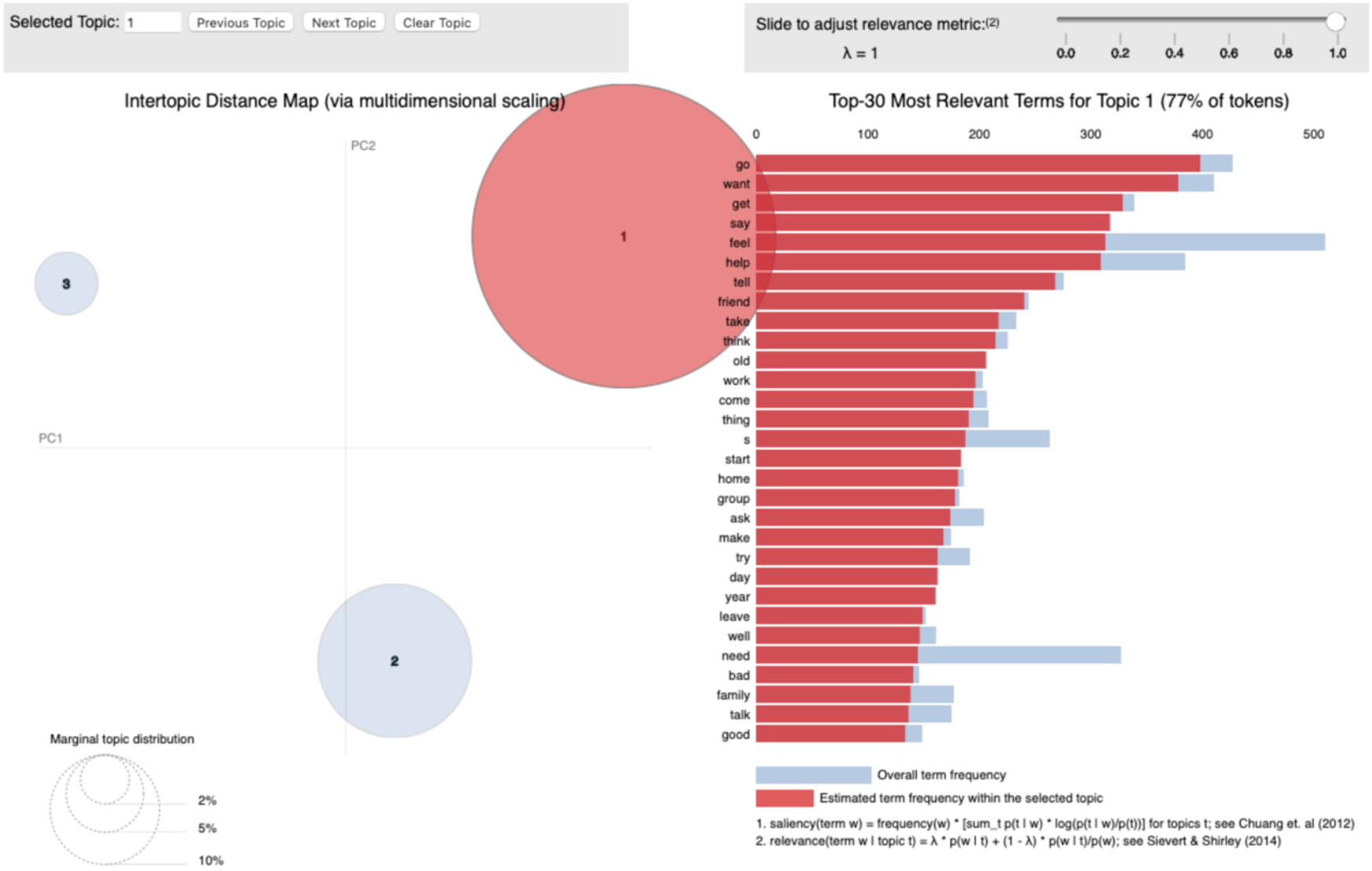
4.3 Results

Figure 2 graphically represents some of the words in each of the three topics. Topic modelling allows similar words to be grouped together but ultimately requires the researcher to interpret what the latent structures relate to. It is important to note that the models shown in Figure 2 focus on the frequency of occurrence over the weight of the topic. Thus, the figures can be used to get a general understanding of the words in each topic, but human knowledge is then needed to extract the semantics, and this should be done in consideration of previous literature. In other words, the mathematical model shows the data, but the analysis does not understand the context of the words and, as such, common words are kept in. LDA allows the researcher to explore large volumes of text quickly in which a more qualitative approach is prohibitive due to time constraints. The next logical step after conducting the LDA is to qualitatively analyse them alongside previous findings.

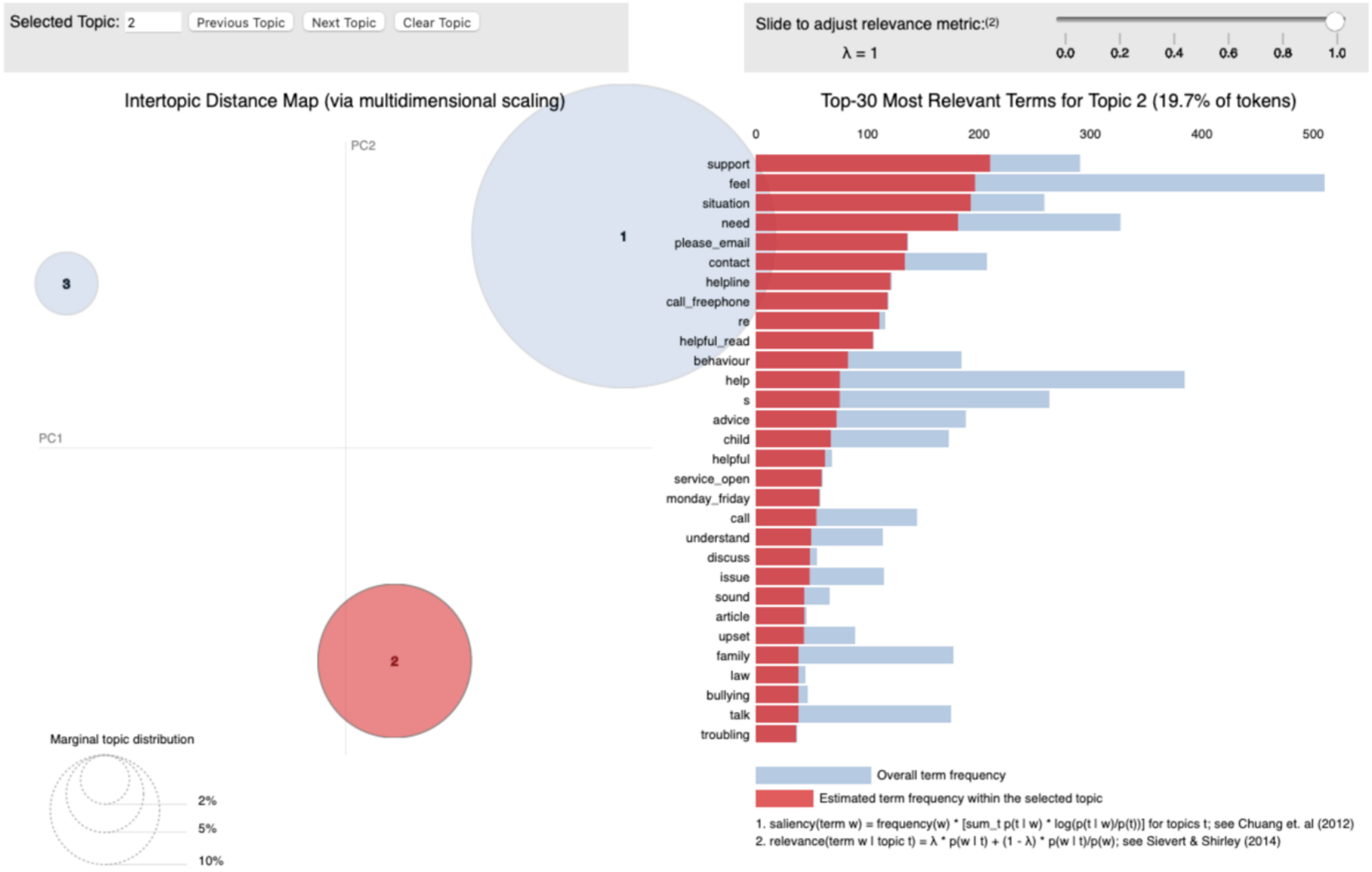
For example, in Topic 0, “family”, “home”, and “friend” are prominent words and the topic was named “relationships and environment”. Another example is Topic 1, in which the words “bullying”, “behaviour”, and “troubling” are prominent, this topic was named “Adverse behaviour”. Finally, Topic 2 featured words such as “income”, “gender”, and “attendance” and was named “Individual differences and status”. The weightings of the top words, as determined by the model, in each topic were explored and found that parents referred to support and helplines in reference to bullying behaviour and adversities, as well as the need for advice and understanding. It was also found that the word “help” was referred to frequently alongside the word “friend”.

Figure 2. Topic models

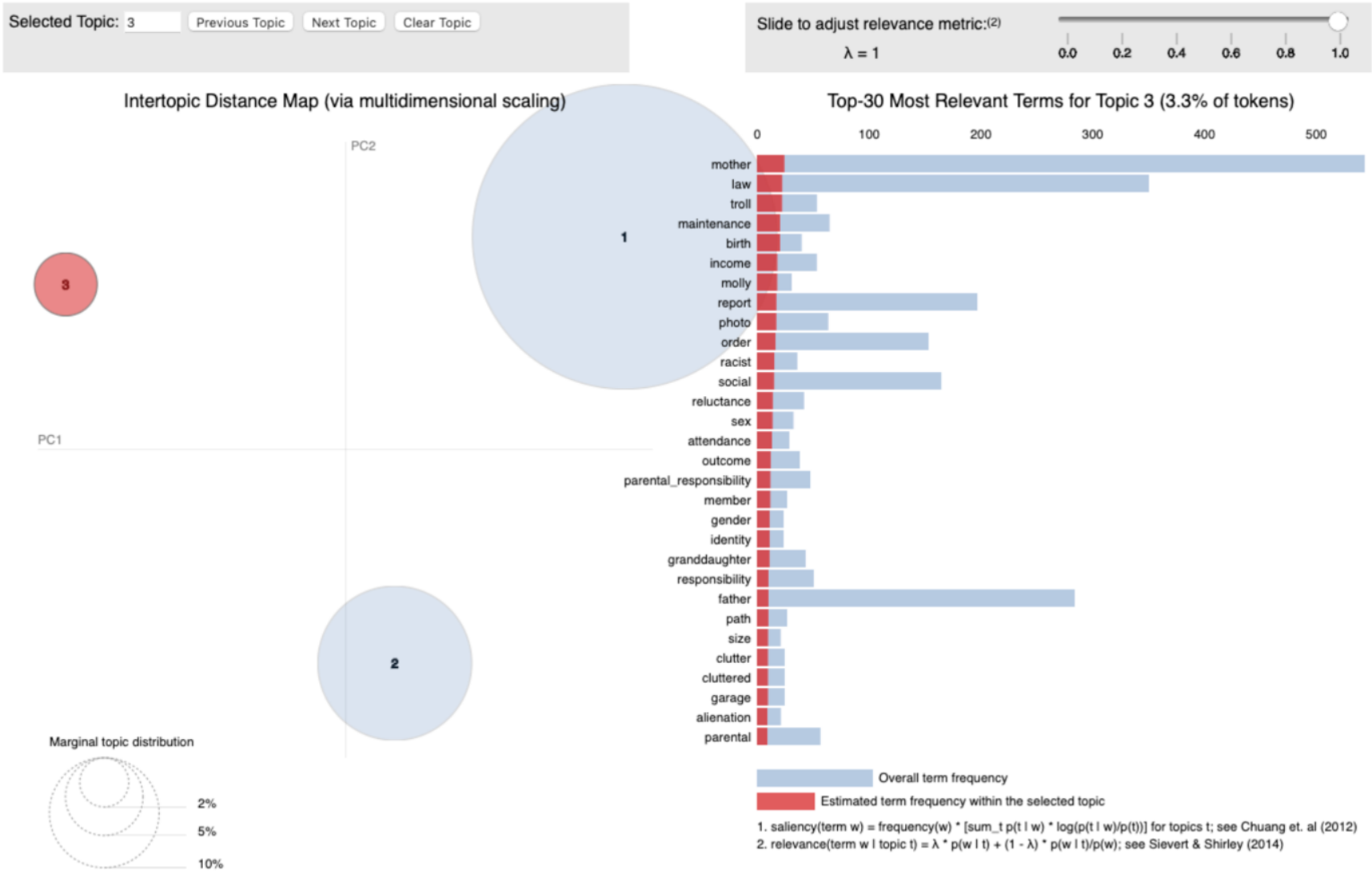
Topic 0: Relationships and environment



Topic 1: Adverse behaviour

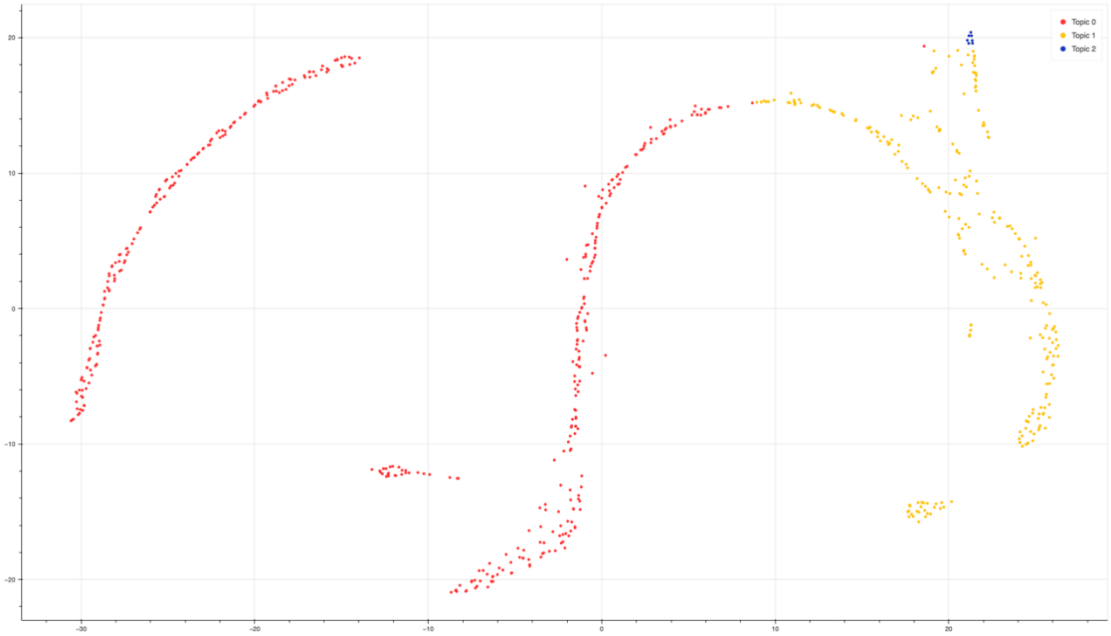


Topic 2: Individual differences and status



To visualise the grouping of each postby topic, and the topic distinctiveness, a t-distributed stochastic neighbour embedding plot was created using the Sci-Kit-Learn and Bokeh packages in Python3.7 (see Figure 3). The plot was generated using a learn rate of 'auto' with a perplexity value of 30. The plot shows each topic using a different colour and each point being a post. The distances between each topic indicated the inter-topic distance.

Figure 3. t-distributed stochastic neighbour embedding plot showing visualisation of the grouping of each word by topic



It can be seen here that the majority of the corpus fell under topic 0 (red) and that there were two distinct 'conversations' as depicted as filiform structures on the plot. The strand on the right begins discussing topic 0 and then changes to topic 1. There were very few documents that fell predominantly under topic 2 (blue) and these were clustered away from the main conversations in the upper right of the plot. Ultimately the model has to assign each document with one topic based on its weight, even if the words contained within it span multiple topics. This likely explains the clustering and appears as if there are only two topics being discussed across the corpus. In reality, there will be several discrete topics being discussed that alternate, but the model has umbrellaed these under a dominant topic (topic 0). Caution must be taken here as the dimension reduction used in t-SNE plots can lead to patterns that are exaggerated or misleading. However, we tried a range of perplexity values

(5, 20, 30, 40, 50), step counts (1000–5000 in steps of 500) and learning rates (100, 150, 200, 250) and on each occasion, these kinds of structures and clustering emerged.

4.4 Discussion

The number of children and young people who are experiencing MHD is rising and statistics regarding this are significantly higher than five years ago in 2017 (NHS Digital, 2022). Whilst MHD are a known problem in this age group, and despite interventions and approaches being available to tackle them, parents are said to feel ill-equipped when it comes to dealing with them (Day et al., 2017). As such, it is seen that parents turn to each other for advice on such matters and as a result of this, and the recent technological advancements, the use of parent forums has grown over time (Lupton et al., 2016). Parent forums provide a platform for parents to discuss a variety of different topics without geographical or time restrictions (Chan et al., 2016). The aim of this study was to explore the topics being discussed on parent forums in relation to SBMH and results yielded three 'topics'.

Discussions on all three topics refer to areas previously highlighted in the literature as being factors associated with SBMH. These range from individual differences and status (e.g. "income", "social", "gender", "attendance", "mother", "father") to behavioural adversities experienced within the school context (e.g. "behaviour", "bullying", "troubling", "upset", "help") to relationships and environment (e.g. "family", "group", "friend", talk", "home").

Topic 0 encompasses words relating to relationships and the environment (e.g. "family", "friend", "group", "home"). One notable topic is the word "family", given that family involvement and mental health outcomes are a prominent topic in current literature. Parental and family involvement have been identified as key factors in promoting positive educational outcomes in children, with involved parents ultimately benefiting their child when it comes to academic attainment, attendance and engagement in school activities (Tan et al., 2020). Parental involvement can help to provide support and encouragement to pupils and this can help positively impact their confidence and self-esteem, something which is known to be linked with a positive outlook and resilience in children (Sher, 2019). Parents who are involved in their children's education are also more likely to notice any MHD and seek appropriate support (El Nokali et al., 2010). The word

“home” was also featured in this topic and the literature suggests that a stable home life can have a profound impact on a child’s mental health (Reiss et al., 2019). A stable home environment can help to provide children with a sense of safety and security and this can lead to better performance in school and healthy relationships with peers (Robinson et al., 2016).

On the other hand, a lack of parental engagement can pose negative consequences for the mental health of the child. Children with uninvolved parents can often feel a sense of loneliness and isolation and this can lead to a feeling of disconnectedness from the school community, ultimately leading to poorer mental health (Ciydem et al., 2023). In relation to home life, children who do not experience stability within the home environment are more likely to develop MHD (Nelson et al., 2020).

Furthermore, friendships are also known to be a large contributor to positive mental health in school pupils. Strong friendships can help pupils feel supported and as though they belong in the school community (Xu et al., 2023) and can also act as a buffer to children experiencing challenges, such as bullying or difficult home life (Scheuplein & Van Harmelen, 2022). In contrast, negative friendships, difficulties in forming friendships, and bullying can be known to exacerbate MHD and can lead to symptoms of anxiety and depression (Wolke & Lereya, 2015).

Topic 1 includes words such as “behaviour”, “bullying”, “upset” and “help.” Given that there is a wealth of literature surrounding bullying, harassment and victimisation and how this impacts on SBMH, it is unsurprising these are commonly mentioned topics on parent forums in relation to schools. Bullying is known to be a contributing factor to MHD of school pupils (Luo et al., 2022). Participants in childhood bullying are known to take up one of three roles: the victim, the bully, and the bully-victim (Armitage, 2021) and there are three typical characteristics of bullying: traditional bullying (Rivers & Smith, 1994), sexual bullying (McMaster et al., 2002), and cyberbullying (Slonje & Smith, 2008). Traditional bullying is classed as physical and verbal actions, sexual bullying is also referred to as sexual harassment, and cyberbullying is seen as aggressive behaviour derived through technology, such as on social media platforms.

Bullying can have a range of consequences for both the bully and the victim. Children and young people who are frequently subject to bullying are more likely to feel excluded within the school

environment (Goldweber et al., 2013), something which is known to contribute to MHD. Children and young people who are bullied are also more likely to regularly skip school (Nikolaou, 2022), something which can have a knock-on effect on their academic attainment and, in turn, their mental health. Furthermore, children subject to such behaviour are more likely to score lower on tests than those who do not experience bullying (Laith & Vaillancourt, 2022). Bullying in schools can also potentially impact on the individual moving into adulthood. It is believed that approximately 29% of adults experiencing depression trace their symptoms back to bullying in their earlier years (Bowes et al., 2015) and bullying is known to be associated with a lack of social relationships and poor perceived quality of life into late adulthood (Takizawa et al., 2014).

Topic 2 reflects individual differences and status, covering prominent areas highlighted in previous literature. For example, socio-economic status was previously referred to in this thesis (Chapter 2), with research suggesting that children from disadvantaged backgrounds are more likely to experience issues with attainment (Hall, 2010), whereas those from more affluent backgrounds are more likely to experience private tuition and out-of-school clubs which can ultimately help to benefit their academic experience (Mahmud, 2019). The word “income” is highlighted as a commonly used word within the posts extracted and is seen alongside “attendance”, previous research highlights that children report feeling at a disadvantage in relation to teacher relationships as a result of their lower socio-economic status (Crowley & Vulliamy, 2007), with reports of teachers being more likely to show a hostile manner towards them. Children from disadvantaged backgrounds are also more likely to be truant from school due to a fear of being subject to bullying behaviour (Ridge, 2011). On the other hand, the words “income” and “attendance” can also refer to those from advantaged backgrounds, who are also known to experience their own challenges. Children from more affluent families, whilst being able to have wider access to private services, such as private tuition, are also known to face challenges in relation to their mental health as a result of heightened academic pressure (Sahlberg & Doyle, 2019).

The words “mother”, “father”, and “gender” were also prominent within Topic 2. As previously mentioned in Chapter Two, there are known discrepancies between genders when it comes to SBMH. As such, girls are reported to be more likely to experience MHD than their male peers

(Gutman et al., 2018; West & Sweeting, 2003). Girls are also shown to experience heightened levels of anxiety in relation to academic attainment in comparison to boys (Long et al., 2021). It has also been previously highlighted that parental involvement can be a factor in SBMH (Ciydem et al., 2023). However, it has not yet been discussed in this thesis that there may be discrepancies between mental health support offered from mothers and fathers and this is an important consideration when taking into account SBMH and the associated factors. Whilst literature is scarce on this topic, one study conducted in China found that increased parental warmth can lead to increased levels of academic pressure. In other terms, the more emotional support that is shown by parents to their children, the more anxious the students feel (Leung et al., 2010). To this author's knowledge, no studies currently report on the difference between mothers and fathers and child SBMH but given that research reports mothers to be the more emotionally available parent (Babore et al., 2014), this could be an interesting avenue for future research.

4.4 Strengths, limitations, and areas for future research

Using a topic modelling approach for this study allowed for a large body of forum posts and their replies to be efficiently categorised quantitatively using an unsupervised[10] learning technique to identify latent topic structures. The approach was data driven (in that it did not require pre-labelled data) in its approach and was an efficient way in which to take a solid 'first-pass' with non-structured, free text data. In this case, topic modelling allows for analysis of a very large set of data and provides an initial understanding of topics before being subject to further analysis by the researcher. To the author's knowledge, this is the first paper to utilise a topic modelling approach when analysing data in relation to SBMH.

However, it must be considered that topic modelling approaches can often produce results that are difficult to interpret, and the topics may not always be meaningful or relevant. This is ultimately as a result of the approach stripping away the semantics of a given corpus and reducing it to a series of numeric matrices and probabilities. It is important that further validation of such topics is considered, and this should be carried out by domain experts to ensure we do not lose the uniquely

[10] In this context, unsupervised means that the researchers did not provide the machine model with a pre-labelled training set.

human expressiveness of the written word and its semantics. In this case, the researcher is a qualified primary school teacher and psychology graduate, with an understanding of the school-based factors of mental health. Despite this, subjectivity can still be an issue with a method such as this, with no clear consensus being available on the optimal settings of parameters for different types of data.

It should also be considered that, despite the forum being advertised as a parenting forum and not just for mothers, the name of the forum may mean that mothers are more inclined to post rather than fathers and it could be that conversations between different genders yield different results. Given that the demographic information of the authors of the posts was not collected, it is not possible to determine how many of each gender contributed to the discussions and this could pose a limitation in terms of bias and generalisability. Furthermore, only one forum was scraped for the purpose of this study and further research should consider utilising more public forums as well as incorporating platforms used by teachers and pupils to gain a more thorough understanding of the conversations taking place between different stakeholders of a potential new measurement tool for SBMH.

Despite such limitations of the method, the study has highlighted some key areas concerning SBMH. Considering that no school-based measure of mental health based on data from parents, pupils, and teachers is yet available, the findings from this research could contribute to the design and validation of such a measure when considered alongside relevant literature.

4.5 Conclusion

The current study aimed to identify topics being discussed in relation to SBMH from the parent forum NetMums. It was found that individual differences and status, behavioural adversities and relationships and environment were the most commonly discussed topics. The main purpose of this study was to inform the content validity of a new measure of mental health for primary and secondary schools and the study has contributed to the triangulation of data collection for this. The data from this study can now be considered alongside the data collected from the preceding chapters to inform the item selection for a new measurement tool for SBMH. The study also provides a more parent-focused consideration of SBMH, something which is scarce in the current literature but is important in the development of a new measurement tool. The implications for practice will be discussed in Chapter 7.

5.0 Chapter 5: The design and validation of the Mental Health in Schools Questionnaire (MHISQ)

Despite the rising numbers of children who experience MHD, there are few measurement tools available to measure mental health in relation to school-based factors. The results of the previous chapters of this thesis have highlighted several main contributors to SBMH, which can be narrowed down to academic attainment, teacher relationships, and peer relationships. The research conducted for this thesis has identified the need for a measure of school-based psychological well-being, which is inclusive of children with SEN, for use in mainstream primary and secondary schools. The design and validation of this new measure will be outlined in this chapter.

5.1 Introduction

It is important that schools work towards the identification of poor mental health as early as possible, as such MHD can be associated with a range of negative consequences in the school context, including a higher rate of absenteeism (Lawrence et al., 2019) and poor academic achievement (Braänlund et al., 2017). It can also impact negatively on the children's future outcomes in education, employment, relationships, and physical health (St John et al., 2005). Addressing poor mental health among students can, in turn, improve learning and achievement (Rossen & Cowan, 2014).

To recap, previous research, as well as the work included in the previous chapters of this thesis, highlight several school-based factors which are associated with the mental health of pupils in mainstream schools in the United Kingdom: peer relationships (Gutman & Feinstein, 2008; Mahmud, 2020; Roome & Soan, 2019), teacher relationships (Harding et al., 2019; Long et al., 2021; Tobias, 2009), academic achievement (Coombes et al., 2013; McLellan & Steward, 2015; Weale, 2017; West & Sweeting, 2003), whole-school approaches, (Humphrey & Wigelsworth, 2012; Kidger et al., 2015) and individual differences (Gutman et al., 2018; Hall, 2010). Peer relationships encompass both positive and negative experiences and pupils who experience acceptance from their peers are known to have reduced levels of anxiety in the transition from mainstream primary to secondary school (Mahmud, 2020). For those who experience negative peer relationships and bullying, a decrease in life satisfaction is evident (Goswami, 2011). Teacher relationships are also seen as an important

contributor to mental health in schools, with positive relationships being associated with lower levels of pupil mental health problems (Long et al., 2021).

The previous chapters of this thesis also support the findings of past research. Chapter 2 outlined that inclusion, relationships with teachers, academic attainment, socio-economic status, whole-school approaches and individual differences are factors which influence psychological well-being in primary and secondary schools. Chapter 3 then focused further on social relationships and academic attainment as two main factors that affected SBMH, and also considered how the factors shifted during the school closures, as a result of covid-19 restrictions. Chapter 4 then outlined the key topics being discussed by parents on online forums and found that individual differences and status, adverse behaviour and relationships and environment were key topics in relation to SBMH.

As well as the challenges children with SEN face in relation to their learning, some can also have particular difficulties with forming and maintaining friendships and academic achievement (Avramidis, 2013; Parsons & Platt, 2017), placing them at additional risk for developing MHD. SEN is a broad term which identifies children with needs that impact their learning and can include diagnoses such as Dyslexia, Dyscalculia, Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder (Parsons & Platt, 2013). SEN will be used as an umbrella term for children with difficulties with learning throughout this chapter. The number of children with SEN attending mainstream schools, as opposed to Special Schools, in the UK has increased over the years (Thomas & Vaughan, 2006). Children and adolescents with SEN are known to be more frequently subject to negative peer relationships and bullying (Dimitrellou & Male, 2020), which can have a detrimental effect on their mental health in terms of self-confidence and self-esteem. Furthermore, limited understanding by some teachers about a child's diagnosis is referred to in the literature as a worry for parents (Whitaker, 2007). A further reported concern is that children with SEN are spending an increasing amount of time with support staff in schools, such as teaching assistants, as opposed to their class teacher and that this can be detrimental to their academic attainment (Blatchford et al., 2012). Experiencing lower academic attainment can have long-term consequences for children with SEN, such as a reduced number of qualifications (Jones, 2010) and poorer job prospects (Loprest & Maag, 2007).

MHD among children and adolescents are increasing (NHS Digital, 2022) and many children with MHD are not identified in schools, preventing them from accessing the help they need from specialist services (Levitt et al., 2007; Humphrey & Wigelsworth, 2016). However, it is said that many teachers feel ill-equipped when it comes to identifying SBMH amongst pupils (Marshall et al., 2017; Day et al., 2017). One method that can help teachers to identify children with potential SBMH is the use of screening tools. Existing measurement tools for child and adolescent mental health tend to come in the form of self-, parent-, or teacher-report measures of general mental health or well-being (Whitney et al., 2011). In a systematic review of child self-report measures (Deighton et al., 2014), it was found that there were 11 measures with the potential to identify poor mental health. All of these were identified as meeting key psychometric standards and providing potential cut-off criteria to distinguish between clinical and non-clinical groups. Despite this, many consisted of a 3-point Likert scale which may lead to limited variability in the data, and some exceeded a total number of 50 items, which could limit their potential use for repeated measurement (Wolpert et al., 2012), because of the time taken to complete them.

Currently, there is only one assessment tool which is directly related to SBMH; this is known as the Me and My School questionnaire (Deighton et al., 2014). As previously discussed in the introduction of this thesis, this measure was not tested for reliability, something which is a fundamental psychometric property (Matheson, 2019). The content validity of the measure was also based on key concepts covered in previously validated emotional and behavioural scales, as opposed to empirical research within the field of education. Finally, the assessment was not validated for children with SEN. It is important that SBMH screening measures are valid for children with SEN, given that their difficulties may be different or exacerbated in comparison to their TD peers.

5.2 Rationale

In light of the lack of appropriate school-based measures of mental health, the current study aims to design and validate a new measure of mental health for use in mainstream primary and secondary schools, which is also appropriate for use with those with SEN. This will be referred to as the Mental Health in Schools Questionnaire (hereafter MHISQ). The content of the measure has been informed by the research outlined in the previous chapters. This includes a systematic review of the

literature (Chapter 2), a qualitative study featuring interviews with parents, pupils, and teachers (Chapter 3), and a topic modelling approach exploring the topics being discussed on parent forums (Chapter 4). The present chapter will focus on exploring the psychometric properties of the MHISQ. The first section will outline the initial development of the MHISQ, including item selection, design, usability considerations, social validity and content and face validity. This will be followed by a wider exploration of key psychometric properties of the MHISQ in the rest of the chapter.

5.3 Developing the MHISQ

Any measure of SBMH should be built upon empirical research and should have good psychometric properties including social validity (Ganz & Ayres, 2018), face and content validity (Abma et al., 2016), reliability (Cohen. 1960; Polit, 2014; Streiner, 2003) and sensitivity and specificity (Trevethan, 2017). Measurement tools should also be easy to access, use, and should be relevant to the construct being measured (Kimberlin & Winterstein, 2008).

Social validity largely encompasses the extent to which a measurement tool is accepted and used by relevant stakeholders (Biggs & Hacker, 2021). The term 'social validity' was initially coined by Wolf (1978) and refers to three dimensions: the social importance of goals, the social acceptability of procedures, and the social importance of outcomes. It is important to employ all three dimensions when creating measurement tools and interventions (Park & Blair, 2019). Social validity is a multi-faceted concept and multiple methods should be utilised to measure it (Elliott, 2017). Examples of how to measure social validity include surveying relevant stakeholders (Leko, 2014; Nastasi & Schensul, 2005) and direct observation of the measurement tool in a real-world setting (Schwartz & Baer, 1991). Both methods can allow for an understanding of the practicality and the acceptability of a measure.

Face validity is one form of measurement validity and assesses whether a measurement tool appears to measure what it is supposed to (Taherdoost, 2016). For a measurement tool to have good face validity, participants should clearly understand what the measurement tool is aiming to measure, in this case, SBMH. A measurement tool should be appropriate for participants and adequate for its purpose (Oluwatayo, 2012). Content validity is another form of measurement validity and refers to how well a measurement tool represents all aspects of a construct (Haynes et al., 1995). In the case of

the MHISQ, the content of the items was guided by recent and previous empirical research which helped to outline factors associated with SBMH. Content validity will also be measured through participant ratings of the items.

Usability is also an important aspect to consider when designing a measurement tool and this indicates how well a measure can be used by its intended users (Couper, 2000). A usable measurement tool is more likely to be used correctly, consistently, and accurately (Albert & Tullis, 2013). Further, measures which are able to be completed in less time, with less effort needed, can provide more efficient results, with less of a burden put upon the participants (Rolstad et al., 2011). On the other hand, a measurement tool with a lack of usability can be frustrating for participants and this could lead to errors and inconsistent results (Sahlqvist et al., 2011).

Finally, it is critical for a measurement tool to be able to adequately measure the construct it is designed to measure. A measurement tool that lacks relevance to the construct in question is unlikely to measure it accurately, and, as such, results will not be reliable for decision-making. A measurement tool with relevance to a given construct can provide accurate and useful information and can also help to improve outcomes (Visser et al., 2000). This section will outline the development of the MHISQ in respect of item selection, usability, social validity, face validity, and content validity.

5.4 Method

5.4.1 Initial item selection

To help maximise the content validity of the MHISQ the potential items for inclusion were selected based on the following criteria:

• Previously published research which identified important areas to include, as informed by the literature review conducted in Chapter 2.

• Items which were represented the areas of concern identified by stakeholder interviews (Chapter 3) and online parenting forums (Chapter 4).

• Items which were specific to the school context. For this reason, items relating to important factors which extended beyond the school context, such as socio-economic status, were not included.

The initial 24-item version of the MHISQ is shown in Table 7.

Table 7. Initial items included in the MHISQ and the construct they intend to measure, based upon the previous work completed in this thesis

Construct	Item	Statement
Peer relationships	1	I often find myself in arguments with my friends*
	2	I can talk to my friends about any problems I have
	3	My friends help me when I am in trouble
	4	I enjoy being with my friends
Bullying	5	I often experience bullying*
	6	I often find myself in arguments with people I would not class as friends
	7	I feel accepted by my peers in all classes
	8	I often feel left out in social scenarios*
Whole-school approach	9	The school I go to makes me feel safe and secure
	10	I know who to turn to in my school if I have negative feelings
	11	My school does not tolerate bullies
	12	I have access to (and enjoy) after-school clubs
Curriculum demands - examinations	13	I often feel stressed in tests*
	14	I often feel stressed in the approach to tests*
	15	I worry a lot about my marks after completing tests*
	16	I worry about the set I will be put into as a result of my test marks*
Curriculum demands - lessons	17	I sometimes feel incompetent in class*
	18	I often struggle with my work in class*
	19	I feel like I am behind in my subjects*
	20	I understand that my ability is different to my friends'*
Teacher relationships	21	I feel understood by my teachers
	22	I feel that I can approach my teachers for help when needed
	23	I like my teachers
	24	My teachers help me with my schoolwork when I need them to

**Reverse scoring applicable*

5.4.2 Usability

Usability outlines how efficient a measure is to use, which can be influenced by both the items and the method of obtaining responses. Questionnaires which require minimal response time are considered optimal (Beebe et al., 2010). In terms of items, Boateng et al. (2018) recommend that a measurement tool should initially start with twice the desired number of items as this allows for items to be removed. An initial 24 item version of the MHISQ was created which allowed for broad coverage of topics related to SBMH. A 5-point Likert scale was used to gather responses, based on guidance that scales with fewer response options show lower reliability (Wang & Krosnick, 2020). All points on the scale were labelled, from 1 ("Strongly disagree") to 5 ("Strongly agree"), on the basis that fully labelled scales produce better quality data than partially labelled, or numerically labelled, scales (Saris & Gallhofer, 2007).

5.4.3 Social validity

The social validity of the MHISQ was explored by involving potential stakeholders, that being pupils, parents and teachers, in the piloting and validation process. Initially, the MHISQ was piloted with all groups, as outlined below, which also allowed for content and face validity to be assessed. The MHISQ was then validated in mainstream primary and secondary schools as discussed in the second part of this chapter.

5.4.4 Design and aim

This study adopted a mixed-methods design, and quantitative and qualitative data was collected through the online survey platform Qualtrics. The aim of the study was to explore the face and content validity of the MHISQ by collecting responses about the potential items from pupils, parents, and teachers.

5.4.5 Recruitment

Participants were recruited via the researcher's existing contacts. Relevant contacts, i.e. parents and teachers, were sent an email by the researcher (see Appendix 5). These included details of the study and what the prospective participants would be asked to do. Parents were also given the option for their child to take part in the study. A total of 36 emails were sent to parents and teachers within the

network, of these 27 agreed to take part in the study. The inclusion criteria were children aged 6-16 years who were enrolled in mainstream schools, their parents, and teachers. The latter two groups were aged 18 years or over. Exclusion criteria included children who attended or teachers who worked at special schools or private schools. Children who were home-schooled were also excluded. This was because it was considered that the school-related factors that influence mental health were likely to be different for those who did not attend or work at mainstream schools.

5.4.6 Participants

A total of 39 participants took part: parents (N = 15), pupils (N = 19) and teachers (N = 5). The pupil sample (see Table 8 for demographic information) consisted of at least one child from each year group of primary and secondary school (Years Reception to 11) to try to ensure that the measure was deemed appropriate for most ages. All participants resided in the North-East of England and a mix of TD children and children with SEN were recruited. Four children in the final sample had a diagnosis of SEN.

Table 8. Demographic information of the pupil participants

Pupil participant number	Age	Gender	SEN
1	10	Female	
2	11	Male	
3	11	Female	Dyslexia
4	13	Male	
5	12	Male	ASD
6	10	Female	
7	6	Female	
8	7	Male	
9	8	Male	
10	14	Female	
11	8	Male	
12	14	Female	Dyscalculia
13	10	Female	
14	13	Female	Moderate learning difficulties
15	8	Female	
16	13	Male	
17	16	Female	
18	12	Female	
19	14	Female	

5.4.7 Ethical considerations

Ethical approval was granted by the researcher's university ethics committee (number 43236). As some items related to sensitive topics, e.g., bullying, all participants were fully briefed on the study and had the right to withdraw at any given time, without providing a reason.

5.4.8 Measures

Mental Health in Schools Questionnaire (MHISQ) Items

The version of the MHISQ used in the study contained 24 items as outlined previously in Table 7. Face validity was assessed via a 9-item questionnaire (see Table 9) in which participants were asked to answer statements in relation to how easy the MHISQ was to complete and how relevant the questions were to mental health. Statements included: "The questionnaire was the right length" and "I enjoyed completing the questionnaire", participants were asked to answer on a 3-point Likert scale ranging from "Very" to "Not very, following on from guidance outlined by Rodrigues et al. (2017) in which 3-point Likert scales can be seen as a way to provide clarity, something which is important in this case as participants were asked to complete a range of questionnaires.

For the purpose of content validity, participants were asked to rate each item of the MHISQ on how relevant it was to mental health, how easy it was to understand, and whether it should be included in the final version of the MHISQ (See Table 10 for responses). For relevance and understanding, participants were asked to rate on a 3-point Likert scale ranging from "Very" to "Not very" and for the inclusion question the options "Yes" and "No" were available.

Table 9. Example of the questionnaire used to assess face validity

Question	Response scale		
	1 = Very	2 = Somewhat	3 = Not very
The questionnaire was relevant to factors affecting pupil psychological well-being			
This questionnaire was easy to complete			
This questionnaire would be appropriate for both primary and secondary school children			
I enjoyed completing the questionnaire			
I would be happy to complete the questionnaire again in the future			
The questionnaire was the right length			
The questionnaire would upset a child			
Overall, to what extent do you believe this to be a good measure of psychological wellbeing for children in mainstream primary and secondary schools?			
To what extent do you believe the measure to be understandable?			

5.4.9 Procedure

The parent and teacher participants were first asked to read the participant information sheet, which was linked to in the recruitment email. This provided detailed information about the study. If happy to proceed, participants provided consent and a code word. Parents were also given the option to consent for their children to take part in the study. The MHISQ items were then presented and participants were asked to read each item and respond to the questions as outlined in Table 9 for the purpose of face validity. Pupils were able to answer the questionnaire with the guidance of their parent if required. There was also an option to leave free text comments. After completing the face validity questions, participants were asked to respond to a further series of questions (see Table 10) for the purpose of content validity.

All data were anonymised and no personally identifying information, such as name or location, was requested. A debrief was provided at the end of the survey which provided information about who participants could contact should they wish to withdraw their data or find out more about the results.

5.5 Analysis

Descriptive statistics were used to summarise the data.

5.5.1 Item removal

For the purpose of eliminating irrelevant items from the MHISQ, an adaptation of the Delphi method (Crawford & Wright, 2016) was used as a guide. This method allows for a general consensus of a measurement tool to be formed, by enabling a panel of participants to respond to a series of questionnaires (Dalkey et al., 1969). For the Delphi method to be used in an optimum manner, a panel should include at least five participants (Armstrong, 2014), experts with appropriate knowledge on the topic (Jolson & Rossow, 1971) and also heterogeneous participants (Delbecq et al., 1975). One advantage of the Delphi method is that it can be completed anonymously, something which can help to reduce peer pressure to conform with what other participants' responses (Fink-Hafner et al., 2019). Generally, a consensus of 60% can be deemed as acceptable for retaining an item (Niederberger & Spranger, 2020). In the present study, agreement of less than 60% on the key properties of the item

was used as one criterion for removing it. Other considerations were usability and free text responses. For example, an item with a consensus higher than 60% could still be considered for removal based on other aspects of the content and face validity measures.

5.6 Results

Numbers and percentages were calculated based on the responses to the questions about relevance, understanding, and whether the item should be included in the final version of the MHISQ. Table 10 outlines the number and percentage of responses in relation to how easy the item was to understand, their relevance to SBMH and whether they should be included in the final measure. Questions 1, 6, 12, 13, 17, 20, 23 were rated as being less relevant compared to the other questions in the MHISQ. In terms of ease of understanding, Questions 6, 12, 13 and 21 were seen as more problematic, with percentages of 'somewhat' being higher for these items than others. Furthermore, questions 6, 12, 13 and 20 had a higher percentage of responses that they should not be included in the final version of the MHISQ.

Table 11 presents the responses to questions in relation to face validity. Most participants were in agreement that the MHISQ was relevant to factors associated with SBMH and would not be distressing to pupils completing it in future.

Table 10. Overview of responses from relevance, understanding and inclusion questions for the purpose of content validity

Item	Relevance						Understanding						Include			
	Not at all		Somewhat		Very		Not at all		Somewhat		Very		Yes		No	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
*I often find myself in arguments with my friends	9	(23)	11	(28)	19	(49)	0	(0)	6	(15)	33	(85)	35	(90)	4	(10)
I can talk to my friends about my feelings	1	(2)	12	(31)	26	(67)	0	(0)	3	(8)	36	(92)	36	(92)	2	(5)
My friends help me when I am sad	0	(0)	8	(21)	31	(79)	0	(0)	6	(15)	33	(85)	35	(90)	4	(10)
I like being with my friends	1	(3)	6	(15)	32	(82)	1	(2)	4	(10)	34	(87)	33	(85)	6	(15)
*I often experience bullying	13	(34)	4	(10)	22	(56)	1	(2)	7	(18)	31	(79)	37	(95)	1	(2)
*I often find myself in arguments with people I would not class as friends	14	(36)	12	(31)	13	(33)	3	(8)	8	(21)	28	(71)	32	(82)	6	(15)
*I feel accepted by my peers in all classes	2	(5)	14	(36)	23	(59)	0	(0)	6	(15)	32	(82)	33	(85)	5	(13)
*I often feel left out in social scenarios[1]	4	(10)	12	(31)	21	(54)	0	(0)	4	(10)	34	(87)	37	(95)	1	(2)
The school I go to makes me feel safe and secure	2	(5)	9	(23)	28	(72)	2	(5)	4	(10)	32	(82)	36	(92)	2	(5)
I know who to turn to in my school if I have negative feelings	1	(2)	13	(34)	25	(64)	0	(0)	7	(18)	32	(82)	35	(90)	4	(10)
My school does not tolerate bullies	8	(21)	7	(18)	24	(61)	2	(5)	6	(15)	31	(79)	35	(90)	4	(10)
*I have access to (and enjoy) after-school clubs	12	(31)	11	(28)	16	(41)	1	(2)	8	(21)	30	(77)	29	(74)	10	(26)
*I often feel stressed in tests[2]	2	(5)	15	(38)	21	(54)	1	(2)	5	(15)	32	(82)	34	(87)	4	(10)
I often feel stressed in the approach to tests	0	(0)	12	(31)	27	(69)	0	(0)	5	(15)	34	(87)	37	(95)	2	(5)
I worry a lot about my marks after completing tests	1	(2)	10	(26)	28	(72)	1	(2)	3	(8)	34	(87)	36	(92)	2	(5)
I worry about the set I will be put into as a result of my test marks	0	(0)	9	(23)	30	(77)	0	(0)	3	(8)	35	(90)	37	(95)	1	(2)
*I sometimes feel incompetent in class	7	(18)	11	(28)	21	(54)	1	(2)	5	(15)	32	(82)	34	(87)	4	(10)
*I often struggle with my work in class	8	(21)	12	(31)	19	(49)	0	(0)	5	(15)	33	(85)	35	(90)	3	(8)
*I feel like I am behind in my subjects	8	(21)	11	(28)	20	(51)	1	(2)	7	(18)	30	(77)	34	(87)	4	(10)
*I understand that my ability is different to my friends'	9	(23)	11	(28)	19	(49)	1	(2)	7	(18)	30	(77)	32	(82)	4	(10)
I feel understood by my teachers	4	(10)	18	(46)	17	(44)	1	(2)	9	(23)	28	(71)	34	(87)	4	(10)
I feel that I can approach my teachers for help when needed[2]	2	(5)	11	(28)	25	(64)	1	(2)	5	(15)	32	(82)	37	(95)	1	(2)
*I like my teachers	6	(15)	14	(36)	19	(49)	0	(0)	4	(10)	34	(87)	31	(79)	7	(18)
*My teachers help me with my schoolwork when I need them to	3	(8)	16	(41)	20	(51)	0	(0)	6	(15)	32	(82)	33	(85)	5	(13)

**Potential item removal, based on a higher level of 'not at all' and 'somewhat' responses*

1- data was missing for 2 respondents, 2 – data was missing for 1 respondents

Table 11. Number and percentage of participants giving each response in relation to questions about the face validity of the MHISQ

Face validity questions (Total N = 14)[11]						
	Absolutely		**Somewhat**		**Not really**	
	N	(%)	N	(%)	N	(%)
This questionnaire was relevant to factors affecting pupil psychological well-being	12	(31)	2	(5)	0	(0)
This questionnaire was easy to complete	13	(34)	1	(2)	0	(0)
This questionnaire would be appropriate for both primary and secondary school children	12	(31)	2	(5)	0	(0)
I enjoyed completing the questionnaire	9	(23)	4	(10)	1	(2)
I would be happy to complete the questionnaire again in the future	10	(26)	3	(8)	1	(2)
The questionnaire was the right length	9	(23)	5	(13)	0	(0)
The questionnaire would upset a child	2	(5)	0	(0)	12	(31)
	Very		**Somewhat**		**Not very**	
	N	(%)	N	(%)	N	(%)
Overall, to what extent do you believe this to be a good measure of psychological well-being for children in mainstream primary and secondary schools?	10	(26)	3	(8)	1	(2)
To what extent do you believe the measure to be understandable?	9	(23)	5	(13)	0	(0)
To what extent do you believe the measure to be suitable for both primary and secondary school pupils?	10	(26)	3	(8)	1	(2)

Free-text responses

The free-text responses provided by participants are shown in Table 12.

[11] Questions relating to the usability of the MHISQ are shown in bold.

Table 12. Qualitative responses from participants in relation to the MHISQ

Question	Item	Respondent	Response
If you answered that any questions should be missed out of the measure, please give a reason why below:	1	Parent	"Arguing with friends is normal so don't think it has an impact on mental health so much."
	12	Parent	"I don't think after school club is relevant to mental health."
	Generic	Parent	"Didn't seem that related to mental health."
	19	Teacher	"Children will naturally be behind as a result of COVID. They might have heard parents or teachers talking about this."
	23	Teacher	"Liking teachers is less important than learning from them. You can have a teacher you like but they may not learn well from them."
	8	Parent	"Left out by who? Quite vague."
	19	Parent	"Behind in my schoolwork, define behind? Children may not know the answer to this."
Please leave any comments regarding the measure here:	Generic	Teacher	"Maybe rephrase some for older children/teenagers"
	Generic	Teacher	"Friendships and public perception seem to be the key drivers of when students' mental well-being takes a dip. Online issues which come into school from the community can also play a factor"
	Generic	Teacher	"Measure seems very social based lots of focus on friends maybe include more: I feel happy before school I feel happy during/ after school I am supported in school My teachers care about me I know who to go to if I am worried When I am worried someone in school is there to help me I am scared of making mistakes"

Based on the criteria for removing items, outlined previously, questions 1, 5, 6, 12, 13, 20, 23, and 24 were removed from the MHISQ. This created a 16-item MHISQ (see Table 13). Further validation of this is outlined in the study below.

Table 13. Final 16-item version of the MHISQ

Item number	Item
1	I can talk to my friends about my feelings
2	My friends help me when I am sad
3	I like being with my friends
4	I am bullied by people in my class
5	I am liked by people in my class
6	I sometimes feel left out
7	I feel safe in my school
8	I know which staff can help me when I am sad in school
9	My school deals with bullies well
10	I feel worried before tests
11	I worry about my marks after tests
12	I worry that I won't do well in tests
13	I struggle with my work in class
14	I feel like I am behind in my schoolwork
15	My teachers understand me
16	I can go to teachers for help if I need to

5.7 Discussion

The aim of this section was to pilot the potential MHISQ items with pupils, parents, and teachers to ensure the measure had good usability, social validity, content validity and face validity. To help ensure that the MHISQ had social validity, the perspectives of the three groups who could potentially use the MHISQ in practice (i.e. children, teachers, and parent) were obtained (Leko, 2014; Nastasi & Schensul, 2005).

The results indicated that over half of participants who completed the questions relating to face validity agreed that the items were relevant to SBMH, easy to understand and that they should be used in the final version of the MHISQ. However, there were several items which fewer than 60% of participants deemed 'very relevant to mental health' and these were removed in line with guidance set out by Crawford and Wright (2016). In addition, some questions were excluded which were deemed by the participants to be or difficult to understand. Previous literature has suggested that shorter measurement tools can lead to more reliable data being collected (Beebe et al., 2010) and the removal

of questions would have the benefits of making the MHISQ quicker and easier to administer. As the MHISQ is designed to be used in a school context, where education staff already experience large workloads (Melnick & Meister, 2008), it is particularly important that the tool is quick and easy to use.

Whilst there was a limited number of free text comments, these were helpful in providing more context to the items which some participants believed to be more (e.g. Covid-19 related loss of learning) and less relevant to mental health (e.g., arguing with friends and after-school clubs). The first comment highlights the real impact that the school closures as a result of Covid-19 restrictions had on children's learning (Engzell et al., 2021), something which has also been known to exacerbate mental health difficulties (Almeida et al., 2022). While the latter comments were based on the perception of only two participants, it suggests that some parents may not be aware of some key factors which are associated with SBMH. This is supported in the literature, which states that parents often find a lack of knowledge in relation to general mental health to be a barrier to accessing mental health services for their children, such as Child and Young People's Mental Health Services (CYPMHS) (Hansen et al., 2021).

This section has outlined the initial development of the MHISQ and includes the views of relevant stakeholders. Whilst an adapted version of the Delphi method was used, other versions include a continuous round of questionnaires in which responses are shown to the group of participants after each round (Grime & Wright, 2016) and it could be suggested that, if such a method was used in this study, different results could have been presented. However, due to the anonymous nature of the Delphi method and the use of a sufficient number and variety of participants, it is believed that the data from this pilot study is appropriate to decide on the final items included in the MHISQ.

5.8 The validation of the MHISQ

The next section will outline a second study which explored the psychometric properties of the final 16-item MHISQ, the development of which was outlined earlier in this chapter.. The aims of this section are to assess the reliability and validity of the MHISQ, as well as the specificity and sensitivity. Comparisons will be made with previously published measurement tools in relation to the construct of SBMH.

5.9 Methods

5.9.1 Design

The study primarily employed a correlational validation design, in which participants completed the MHISQ and two or three other validated measures of emotional well-being, depending upon their age.

5.9.2 Participants

Participants were recruited from one primary school, one secondary school, and from the general public. A total of 185 participants took part and the final sample, after exclusions due to missing data, consisted of 97 pupils, 46 parents, and 42 teachers. See Table 14 for the demographic data of the pupil participants.

Schools were situated within the North-East of England and were state-funded, with private schools and special schools being excluded from the recruitment process. Participants were also recruited through social media and the personal network of the first author, who is a qualified primary school teacher and psychology graduate. Children, teachers, and parents of children, associated with private schools, special schools, and home-schooling were excluded from the study.

Table 14. Demographic information of pupils included in the study, as reported by pupils, parents, and teachers

Group		Age M (SD)	Gender	Comments
TD	*N = 128*	11.38 (2.20)	Male = 54 (42.2%) Female = 72 (56.3%) Prefer not to say = 2 (1.6%)	No disclosed mental health or SEN
SEN no MHD	*N* = 10	12.00 (1.70)	Male = 8 (80.0%) Female = 2 (20.0%)	ASD = 2 Dyscalculia = 2 Undergoing assessment = 1 Undisclosed = 5
MHD no SEN	*N* = 23	12.61 (2.14)	Male = 2 (8.70%) Female = 20 (87.0%) Prefer not to say = 1 (4.30%)	Based upon self-report and RCADS-25 data
Both SEN and MHD	*N* = 9	13.67 (2.06)	Male = 2 (22.2%) Female = 7 (77.8%)	Moderate learning difficulties = 3 ADHD = 4 ASD = 1 Undisclosed = 1

**Please note that some inconsistencies were present in the data due to the same demographic information being collected from teachers and parents in relation to the same pupil. The table shown above shows the demographic data of the pupil participants after the removal of duplicate data,, using parent data where present.*

5.9.3 Measures

Details of the measures used are outlined below:

Mental Health in Schools Questionnaire (MHISQ)

The MHISQ was created for the purpose of this thesis and is a 16-item measure of SBMH (see Table 13). The previous section outlined the development of the measure and reported on its content and face validity, as well as its usability. The MHISQ items are scored on a 5-point Likert scale, ranging from 1 “Strongly disagree” to 5 “Strongly agree”. Items 4, 6, 10, 11, 12, 13 and 14 are reverse scored and total raw scores are calculated, with a higher score indicating better mental well-being.

Revised Child Anxiety and Depression Scales, Child and Parent Short Versions (RCADS-C-25/RCADS-P-25: Ebesutani et al., 2012)

The RCADS-C-25 and RCADS-P-25 are shortened versions of the original 47-item RCADS-C and RCADS-P. Both measures contain the same items, with only slight wording and instruction changes, depending on the user. The measure has been validated for ages 6 to 18 years and focuses broadly on anxiety and depression. Schmid-Leiman exploratory bifactor analysis was initially used to reduce the

37 anxiety items on the original RCADS down to 15 items representing “broad anxiety” for the purpose of the RCADS-C-25 (Ebesutani et al., 2012).

The short-form parent version (RCADS-P-25) features the same items as the short-form child version but includes different wording aimed at the specific audience. For example, “I worry about things” on the child version is replaced with “my child worries about things” on the parent version. Children answered the child version of the RCADS, whereas teachers and parents used the parent version, answering on behalf of their pupils/children.

Both the anxiety and depression scales on the RCADS-C-25 show acceptable reliability in clinic-referred samples (Anxiety α = .96, depression α = .80) and school-based samples (anxiety α = .94, depression α = .79). The RCADS-25 also shows good test-retest reliability (Chorpita et al., 2000) and good convergent validity against the Children’s Depression Inventory and the Revised Children’s Manifest Anxiety Scale (Chorpita et al., 2005).

The RCADS-25 is scored by initially calculating a raw score from the 4-point Likert scale which ranges from 0 being “Never” to 3 being “Always”, this is then converted to a ‘t score’ using a Syntax available from the developers. A t score of 65 is described as ‘borderline critical’ by the developer, and a score of 70 is classed as the ‘clinical threshold’. No reverse scoring is used for this measure and scores can be calculated as a total score, or separately for the anxiety and depression sub-scales. For the purpose of this study, a total score was calculated which encompasses anxiety and depressions symptoms and a score of 65 and over classified a child as having mental health problems.

Given that the measure covers both anxiety and depression constructs, both of which are known to be prominent amongst 8- to 16-year-olds (World Health Organisation, 2022), and that it has good psychometric properties, this measure was deemed a suitable tool against which to measure the convergent validity of the MHISQ.

Positive and Negative Affect Schedule for Children (PANAS-C: Ebesutani et al., 2012)

The PANAS-C is a revised 10-item questionnaire based on positive affect (PA) and negative affect (NA) scales that have previously been known to successfully identify anxiety and mood problems amongst youths (Hughes & Kendall, 2009). The scale is a self-report measure and is based on the

original 27-item Positive and Negative Affect Schedule for Children (PANAS-C; Laurent et al., 1999). A parent version of the 27-item PANAS-C is also available and features the same items, with adapted instructions for the purpose of parental use. Ebesutani et al. (2012) reduced the original PANAS-C measure down to 10 items, five for the PA scale and five for the NA scale, using Item Response Theory analyses in order to improve the psychometric properties by only including the most discriminating and informative items on the measure.

The 10-item PANAS-C is validated for ages 6 to 18 and is scored on a 5-point Likert scale ranging from 1 ("Not much or not at all") to 5 ("A lot"). Cronbach's alpha coefficients for the reduced 5-item PA scale for child and parent versions were $\alpha = .86$ and $\alpha = .85$, respectively. The Cronbach's alpha coefficients for the shortened 5-item NA scale for the child and parent versions were $\alpha = .82$ and $\alpha = .83$, respectively. Both the PA and NA across both versions show good internal consistency (Cronbach's alpha > .80; Nunnally 1994).

The 10-item version of the PANAS-C, which is used in this study, is considered more efficient to administer due to its shorter nature (Ebesutani et al., 2012). Emotions include "cheerful", "sad", and "proud". Both scales are scored individually and a higher score on the PA indicates more of a positive affect, or better wellbeing, and a lower score on the NA indicates less negative affect, and better wellbeing. No reverse scoring is required for this measure.

Short Warwick Edinburgh Mental Wellbeing Scale (*SWEMBWS: Tennant et al., 2007)*

The SWEMBWS is a shortened 7-item version of the original Warwick Edinburgh Mental Wellbeing Scale which is validated for ages 11 to 16 years to measure mental well-being. The responses are measured on a 5-point Likert scale, ranging from 1 being "None of the time" to 5 being "All of the time" and refer to how the students have felt over the previous two weeks, for example, "I've been feeling optimistic about the future" and "I've been dealing with problems well". The scores are first calculated as raw totals, before being converted to metric scores using a conversion table created by the developer. No cut-off score is available for this measure; however, a higher score indicates a better level of mental well-being. No reverse scoring is required for the SWEMWBS.

The scale shows good internal consistency ($\alpha = 0.87$) and acceptable test-retest reliability (Wrobel et al., 2019). The measure has also been found to have good construct validity (Ringdal et al., 2018) and discriminant validity (McKay & Andretta, 2017). The measure was believed to be a good fit for measuring convergent validity with the MHISQ due to its robust psychometric properties and ability to accurately measure the general mental well-being of participants.

5.9.4 Demographic data

The demographic data of the pupils was provided by the participant completing the survey, this was either the pupil, the parent, or the teacher. Information about child age, gender, and relevant diagnoses (learning disability, MHD, and other conditions) was collected. For the purpose of calculating frequencies and descriptive statistics, the data was screened and duplicate code words, which were present as a result of two or three participants responding for the purpose of one pupil, were removed leaving only the one code word associated with the demographic data. No discrepancies were present amongst the demographic data of the pupil in respect of age and gender. Where a diagnosis of MHD or SEN was disclosed for a pupil by a parent or teacher, but not the pupil, the researcher relied upon the data collected from the adult participant, this is due to some children potentially being unaware or unsure of their diagnosis.

5.9.5 Data management

Data was stored on a password-protected devices that only the researcher and supervisor had access to. Any personally identifying information was collected online at the beginning of the survey and stored separately from the data and was deleted at the end of the study. All data was treated in accordance with the data protection act and Northumbria University guidelines. Data was anonymised and only identifiable by code, which the participants were asked to provide. This was also in place should the participant wish for their data to be removed from the study.

5.9.6 Ethical approval

The project was approved by the Northumbria University Ethics Committee (#43236).

5.9.7 Recruitment

The study used two sources of recruitment: via local schools and via the general public. Each method is outlined below. Local schools were selected by the researcher to be contacted regarding the study, based on the criteria that they were mainstream primary or secondary schools located in the North-East of England. Five primary schools and four secondary schools were approached and were contacted initially via an email, which outlined details of the project (see Appendix 6). Out of the schools contacted, three primary schools and one secondary school showed interest by responding to the email and these schools were then followed up with a telephone call. The schools which had not replied to the email were also contacted via telephone but did not show an interest in participating. After the researcher had shared details of the study with the prospective schools, which included the concept and timeline of the project, one primary school and one secondary school agreed to take part.

Public recruitment was conducted on social media, parenting networks, and by email. A poster providing a basic outline of the study (see Appendix 7), was posted on the social networking sites Facebook, Instagram, Twitter, Netmums, and Mumsnet. The researcher used their professional Facebook, Instagram, and Twitter accounts to post the information and the forums Mumsnet and Netmums are free-for-use and, as such, the researcher did not require permission to post. The post included contact details for the researcher which participants could use to find out more information about the study, should they wish. Participants were able to take part in the study if they were aged between 8 and 16 years (with parental consent), or a teacher of, or a parent to, a child aged 8 to 16 years. Participants also had to be attending, or the parent or teacher of someone attending, a mainstream primary or secondary school in the UK. Private schools, special schools, and home-schooled children were excluded from the study.

5.9.8 Procedure

School sample

A time was arranged with the school via email, in which the researcher liaised with the teacher in charge of working on the project. Once a time was agreed, the researcher forwarded the survey link, via email, to the school to be distributed to parents by text message via the school office. In this text

message, a brief overview of the study was provided and the link was available for parents to open. Parents were then able to consent to themselves and their child taking part in the study. The recruitment text messages were sent out to parents by the school office on two separate occasions, five days apart, to recruit as many participants as possible. Once recruitment had closed, the researcher liaised with the school to arrange for the participating children to attend a classroom session to complete the survey. The data collection was conducted online in school, with children completing the questionnaires digitally on school-owned Chromebooks. This was carried out in a large classroom as a group. The researcher attended the schools in-person and assistance was provided to the children with reading and understanding the questions by both teachers and the researcher. Any child aged 11 years or older who was not available during the allocated time, due to an absence for example, was emailed the link to the online survey by their teacher and was requested to complete it in their own time that same week.

Teachers were also asked to complete the questionnaires on behalf of the children in their class. A list of pupil names and code words was provided to the teacher overseeing the project and pupils were allocated to teachers in the school based on how well teachers knew the pupil. To maximise the potential for accurate results, teachers would be paired with pupils they taught frequently. Teachers were able to complete the questionnaire in their own time, using a school computer or their personal device, with the only condition being that it must be completed the same week as the pupil participation. All participants received an online debrief after completing the survey and were provided with the researcher's contact details should they wish to ask any further questions. Both sets of participants completed the MHISQ, RCADS-25, SWEMWBS, and PANAS-C on two separate occasions, approximately two weeks apart, using the same procedure, to obtain information about test-retest reliability. Each school received a £100 voucher for their participation in the study and an invitation was given to provide follow-up information about the study via email.

Public sample

A poster (see Appendix 7) was created which provided details about the study and which included a QR code linked to the online questionnaires. This poster was then shared across social media,

parenting networks, and through the personal network of the researcher by email. Parents were able to click on the link and access the online survey (see Appendix 8), in which they would initially be asked to provide consent to take part. The option for their child to consent to take part in the survey was also available. An email address was requested by the participant for the purpose of contacting them for the second round of data collection. It was recommended that children old enough to read and complete the questionnaires independently should do so, whereas those unable to should have guidance from parents. Demographic data of the pupils was collected in the same manner as for the school sample, including age, gender, and relevant diagnoses. For participants completing the questionnaire in respect of someone aged eight to 10, the MHISQ, PANAS-C and RCADS-25 were available to complete. For ages 11 to 16, the measures mentioned as well as the S-WEMWBS were available. Debrief materials were provided at the end of the survey and the researcher's contact details were provided, should participants have any questions or later wished to withdraw their data. For the purpose of test-retest reliability, the participants were invited to take part in the survey on a second occasion, approximately two weeks later. Emails were sent out to parents requesting them to take part for a second time, using the email address provided from the first round of data collection. No reimbursement was provided to these participants. Participants were also asked if they would like to receive the results of the study when it was completed.

5.9.9 Analysis plan

Descriptive statistics were used to present the demographic information. The questionnaire data was explored to determine whether it met the criteria for parametric statistical analysis. and distribution was assessed to ensure the data was suitable for Pearson's correlation. The rating scales used in the measures included were treated as interval data, in line with recommendations by Knapp (1990). Considering potential violation of assumption, Ott and Longnecker (1977) suggested results from larger sample sizes are less likely to be affected by violation of assumptions and that most parametric tests are robust against such.

Unidimensionality was tested by utilising Cronbach's alpha, to measure whether the MHISQ was measuring one underlying construct. Participant numbers vary across the different analyses due to the age ranges of the different measures that were used.

Validity

The total MHISQ scores were compared to those from three other standardised measures of related constructs, using Pearson's correlation: the RCADS-25, the SWEMWBS, and the PANAS-C. The parent and teacher report version of the RCADS-25 was used for parent and teacher participants as this has previously been validated in schools. The SWEMBWS and PANAS-C do not have parent and teacher report versions available for use and so the standard version was used for all participant groups. A sample size of 85 participants was deemed suitable to achieve a medium effect size, based on power of .8 and alpha of .05 (Cohen, 1992).

The RCADS-25 and SWEMWBS total scores and separate NA and PA scores from the PANAS-C were used for the analyses. See Appendix 9 for the output.

Reliability

Test-retest reliability

Total MHISQ scores were calculated for participants who had completed the survey on two occasions, approximately two weeks apart, and Pearson's correlation was used to determine the stability of the measure over two time points, in accordance with guidelines proposed by Dutil et al. (2017). For both test-retest reliability and inter-rater reliability, a correlation of .1 to .3 was deemed weak, .3 to .5 medium, and .5 to 1.0 strong.

Inter-rater reliability

Inter-rater reliability was also tested for, with the participant data from the new measure being analysed using Pearson's Correlation to ensure different participant groups answered the questions in the same manner. A sample size of 85 participants per analysis was deemed suitable to achieve a medium effect size, based on power of .8 and alpha of .05 (Cohen, 1992).

Internal consistency

Internal consistency was examined using Cronbach's α (Cohen, 1951) and its 95% confidence interval (CI). Based upon the work of Bonett (2002), a G*power analysis (using power of between .8 and .9 and an alpha level of .05) indicated a sample size of between 84 and 112 was required for the purpose of calculating internal consistency. Guidance outlined by George and Mallery (2003) suggests an internal consistency of .7 to be acceptable, .8 to be good, and .9 to be excellent.

ROC Analysis

A ROC analysis was conducted to obtain a cut-off score that maximised the sensitivity and specificity of the MHISQ. An approximate sample size of 57 was deemed appropriate for this analysis, 19 children with mental health problems and 38 without (Hanley & McNeil, 1982).

The specificity of a measure indicates how likely the measure is to correctly identify participants without the condition, in this case, children without SBMH. Whereas the sensitivity of the measure refers to the ability of a measure to correctly identify those with the condition, as compared to a 'gold' or 'reference' standard measure. For example, a test with 80% sensitivity would detect 80% of participants with the condition, whereas 20% would be wrongly classified as not having SBMH. Similarly, a test with 80% specificity would correctly report 80% of participants without the condition, but 20% would be incorrectly classified as having the condition.

Whilst it is important for a measure to have both high sensitivity and specificity, a trade-off between the two is often required (Trevethen, 2017). In the case of SBMH, a lack of specificity would mean the potential of over-identifying children with SBMH and could lead to an incorrect diagnosis which could lead to potential stigma and resources directed towards children that are not in need of such. On the other hand, a lack of sensitivity would mean potentially under-identifying children with SBMH, and this could mean distressed children going unnoticed, which could lead to negative consequences, both in the short-term, such as difficulties with peers and school absenteeism, and long-term, such as poorer employment prospects (Goodman et al., 2011).

Whilst no specific recommendations for minimum values for sensitivity and specificity for mental health screening tools could be found, the values found for existing measures can be used as

comparators. Previous studies in relation to mental health screening have shown high sensitivity and specificity values of 0.86 and 0.71 for the RCADS, respectively (Ebesutani, 2012) and 0.73 and 0.89 for the Mental Health Inventory (Berwick et al., 1991), respectively. Generally, it is believed a score of .50 indicates a chance estimate, with a score of 1.0 being a perfect prediction of the condition (Bunevicius et al., 2007; Hanley & McNeil, 1982), and anywhere between 0.5 and 1.0 indicating a better-than-chance prediction (Kraemer, 1992).

Determination of mental health status for the ROC analysis

Determination of mental health status of the participating children (i.e., MHD or no MHD) was based upon self-report by the participant. As mentioned previously, the data was screened by the researcher and where a diagnosis was declared by a parent or teacher for a pupil, but not by the pupil, the former was used. In this case, three parent responses and one teacher response were used.

Significance value

A significance value of .05 was used for the purpose of this study, despite multiple analyses being carried out using the same data. Whilst adjusting statistical significance to address this is recommended by some researchers, such as through using the Bonferroni correction (Armstrong, 2014), research suggests that this has the potential to increase type II errors, deeming important relationships within the data non-significant (Perneger, 1998). It is for this reason that describing which tests of significance have been performed and their rationale has been suggested as the best way to deal with multiple comparisons. The latter approach was adopted in this study. All analyses were run in SPSS Version 28. Relevant outputs can be found in the appendices and are sign-posted throughout the results.

5.10 Results

5.10.1 Testing assumptions

All items on the MHISQ were within the normal range for distribution (+/- 1.96) (Ghasemi & Zahediasl, 2012). All total scores were also within the normal range for distribution and the current

research considered outliers to be participants with z scores +/- 3 (Bakker & Wicherts, 2014)., of which none were present.

5.10.2 Internal Consistency

Cronbachs α for the MHISQ across all participant groups was good (George & Mallery, 2003) (α = 0.839), this was also the case for the parent and teacher groups (α = 0.860; α = 0.858, respectively). In comparison, the pupil group was slightly lower, achieving acceptable internal consistency (α = 0.792).

5.10.3 Construct validity

The construct validity was assessed by considering the convergent validity of the MHISQ against three current measures suitable for pupils ages 8 to 16 years. The associations between the scores on the MHISQ, the RCADS-25, the SWEMWBS, and the PANAS-C are shown in Table 15.

Table 15. Pearson's correlations showing convergent validity between the MHISQ and other validated measures

Validated measure		**Participant group**		
		Pupils	**Parents**	**Teachers**
RCADS-25	r	-.423**	-.403**	-.324*
	N	95	45	41
SWEMWBS	r	.568**	.577**	.605**
	N	65	37	27
PANAS-C (PA)	r	.483**	.450**	.414**
	N	93	45	41
PANAS- C (NA)	r	-.343**	-.407**	-447**
	N	93	45	41

Note. **$p < .001$, *$p < .05$

5.10.4 Test-retest Reliability

Test-retest reliability was used to assess the stability of the MHISQ across time. Collating results from pupils, parents, and teachers, a strong correlation was found ($r(65) = .589$, $p < .001$). This was also the case for the parent ($r(6) = .938$, $p < .001$) and teacher groups ($r(16) = .613$, $p < .001$). A moderate correlation was found for the pupil participants ($r(50) = .410$, $p < .001$).

5.10.5 Inter-rater reliability

In terms of inter-rater reliability, the MHISQ scores of parents and teachers were strongly correlated ($r(3) = .957$, $p < .001$), pupils and parents scores showed a non-significant weak correlation ($r(13) =$

.276, p = .160), and pupil and teacher scores also showed a moderate correlation (r(14) = .457, p = .028).

5.10.6 ROC Analysis

A ROC analysis was conducted using the MHISQ total scores. For all ROC analyses, scores equal to or lower than the chosen cut-off point indicated a higher chance of the pupil having MHD. Different numbers of participants are present in each analysis due to data replication between pupils, parents, and teachers.

Table 16 shows the results of the ROC analysis for pupils, parents, and teacher groups. Sensitivity was prioritised over specificity for this analysis, with a sensitivity score of as close to .8 as possible, and a specificity score as close to .7, being chosen. Details about the sensitivity and specificity at the optimal cut-point can be found in Table 11, the figures included below in respect of the specificity and sensitivity represent the best compromise within the data.

For the parent group, the optimal cut-point was found to be 53. The teacher cut point was identified as 58, and the pupils as 56. See Table 17 for an overview of the psychometric properties of the MHISQ.

Table 16. ROC analysis results for pupils, parents, and teacher groups

	Pupils	Parents	Teachers
Area Under Curve (SE)	.713	.730	.722
Optimal cut-point*	56.0	49.0	58.0
Sensitivity	.722	.636	.750
Specificity	.658	.706	.588

*Note: *rounded to the nearest whole number*

Table 17. Summary of the psychometric properties of the MHISQ

Psychometric Properties		Participant group			
		Pupils	**Parents**	**Teachers**	**Combined**
Internal consistency (Cronbach's α)		α = 0.792	α = 0.860	α = 0.858	$\alpha = 0.839$
Inter-rater reliability		Moderate correlation (r = .457*) with teachers	Weak correlation (r = .276) with pupils	Strong correlation (r = .957**) with parents	N/A
Test-retest reliability		Moderate correlation (r = .410**)	Strong correlation (r = .938**)	Strong correlation (r = .613**)	Strong correlation (r = .589**)
Convergent validity	RCADS-25	-.423**	-.403**	-.324*	N/A
	SWEMWBS	.568**	.577**	.605**	N/A
	PANAS-C (PA)	.483**	.450**	.414**	N/A
	PANAS-C (NA)	-.343**	-.407**	-.447**	N/A
Sensitivity		72%	64%	75%	N/A
Specificity		66%	71%	59%	N/A

Rounded to the nearest ten

Note. **$p < .001$, *$p < .05$

5.11 Discussion

The aim of this study was to explore the psychometric properties of the new measure of SBMH (the MHISQ). The development of the MHISQ was informed by three strands of research outlined in previous chapters. It was designed to measure school-related factors that have been shown to influence mental health; to be used in primary and secondary schools; and to be relevant for children and adolescents with SEN as well as their TD peers.

As previously discussed, robust psychometric properties include good reliability, internal consistency, test-retest, and inter-rater reliability (D'Souza et al., 2017). Good concurrent validity against other existing measures and sensitivity between .51 and 1.0 (Kraemer, 1992) should also be present. Construct validity was assessed by considering the convergent validity of the MHISQ measure against three existing measures that have previously been validated for people aged 8 to 16 years. The measures chosen for the purpose of measuring convergent validity were selected due to them exploring different facets of mental health, with the RCADS-25 covering anxiety and depression, the PANAS-C covering PA and NA, and the SWEMWBS exploring mental well-being, which broadly encompasses both mental and physical health (Ruggeri et al., 2020).

The RCADS-25 is known to be a feasible measurement tool for administration in schools which can accurately detect anxiety and depression in children and adolescents in non-clinical settings and has also been shown to have robust psychometric properties (Klaufus et al., 2020), as previously outlined in this chapter. However, the RCADS-25 focuses primarily on feelings external to the school environment and does not focus on aspects such as teacher relationships, pupil relationships, or academic achievement; all of which are highlighted in the literature as important influences on mental health. Anxiety and depression are prevalent conditions among children and adolescents and can lead to later problems in life, such as substance abuse and suicidal behaviour (Johnson et al., 2018), however, early detection can be achieved through proactive screening within non-clinical environments, such as schools (Carnevale, 2011; Green et al., 2013). The MHISQ correlated well with the RCADS-25 which could suggest that the items included on the MHISQ are representative of topics that could influence symptoms of anxiety and depression.

Further to this, the PANAS-C was developed to measure PA and NA in youth and has also been used in research to understand the relationship between anxiety and depression (Jacques & Mash, 2004). PA is a broad dimension characterised by feelings of alertness, enthusiasm, and activity (Watson et al., 1988) and has become an increasingly important aspect of identifying individuals with mood disorders. PA assessment has been known to be one of the best methods for identifying children and adolescents with depression (Chorpita et al., 2000). Similarly, NA is also related to mood states but is more directly linked to sadness, fear, and guilt and is known to be a shared component of anxiety and depression (Ebesutani et al., 2012). Given that the PANAS-C is known to have good psychometric properties (Ebesutani et al., 2012) and that it encompasses dimensions related to anxiety and depression, it was deemed suitable for comparison with the MHISQ. It also allowed for some understanding of how well the MHISQ captures, not just feelings of anxiety and depression, but also generally low and high mood.

The SWEMWBS was created to enable the monitoring of positive mental health in non-clinical populations (Shah et al., 2021). Whilst the dimension of mental well-being has been debated in the literature, there is a growing consensus that the term is linked to feeling good (Hedonia) and functioning well (Eudaimonia) (Keyes et al., 2002; Ryan & Deci, 2008). The SWEMWBS was seen as an appropriate comparator for the MHISQ due to it measuring the overarching dimensions of 'feeling good' and 'functioning well.'

Overall, convergent validity was strongest between the MHISQ and the SWEMWBS but the MHISQ also correlated significantly with the RCADS-25 and both sub-scales of the PANAS-10. From this finding, it could be suggested that the MHISQ is measuring the construct of general mental well-being, including feeling good and functioning well, slightly more than it is measuring anxiety, depression, PA, and NA. The aim of the MHISQ is to measure SBMH and the relationships found between the MHISQ and the comparison measures suggest that it is successfully capturing a range of relevant constructs including hedonic and eudaimonic feelings, anxiety, depression and low mood (Ryff et al., 2021).

In relation to reliability, overall, the measure had good internal consistency when considering all participant data combined. The internal consistency for teacher and parent completed MHISQ was good, and for pupils, this was classed as acceptable (Tavakol & Dennick, 2011). The latter result could be for a

number of reasons, such as children having more difficulty with reading and understanding the questions or being less able to assess and report on their emotions in a consistent way. The readability of psychological questionnaires has been a concern in the literature for some time and it is suggested that not all measurement tools are easy to use for the intended audience (McHugh & Behar, 2009; McHugh et al., 2011). The usability of the MHISQ was, however, assessed during the piloting stage of this study, with the final version containing items that received the best ratings on aspects such as being understandable and relevant.

Maximising the usability of the MHISQ was particularly important given that children with SEN were included in the sample, and such children may have greater difficulties with reading and comprehension than TD children. Further research which explores the accessibility and usability of the MHISQ with a larger sample of children with SEN would be beneficial in ensuring the measure is accessible for both TD pupils and pupils with SEN. How this might be addressed will be discussed later in this discussion.

Overall, however, the results suggest that the items in the MHISQ are broadly measuring the same construct. When considering this in line with the content and face validity of the MHISQ, as well as the relationships with the RCADS-25, SWEMWBS and PANAS-C, it is likely that the MHISQ is measuring SBMH.

In terms of test-retest reliability, the data from all participants combined and also the teacher data showed strong reliability, with the pupil and parent data showing medium reliability. The strong test-retest reliability for teachers indicates that the MHISQ is a stable measure and an accurate representation of the participant's SBMH. This suggests that teacher informant responses may be more stable over a short time period than the parent and child self-report. There are several reasons why child responses may not be as stable over a two-week period. This could include the support offered to children to complete the measure at the time. If the support varied over time, the pupil responses may also have varied due to factors such as the readability (McHugh & Behar, 2009) of the MHISQ and how comfortable the child felt with the person giving support. The latter may have influenced whether the pupil gave social desirable responses or not (Van de Mortel, 2008), particularly in response to questions

about relationships with teachers. For parents, it could be that they do not have as good of an understanding of MHD (Marshall et al., 2017).

For inter-rater reliability, teachers and parents demonstrated strong agreement, and teacher and pupil responses showed medium agreement. However, pupil and parent responses correlated poorly. Research has suggested that parents feel ill-equipped to identify and deal with poor mental health in children and young people (Marshall et al., 2017; Day et al., 2017). The findings here could suggest that pupils are reporting their mental health differently from their parents, thus highlighting a discrepancy between the understanding of participants in relation to mental health. However, as previously stated, children may have experienced difficulty in reading and understanding the questions and this may have been heightened amongst younger children and children with SEN. Some SEN diagnoses, such as Dyslexia, are known to be associated with reading difficulties (Tunmer et al., 2010) which may have impacted on some of the child participants in the study. Whilst assistance was available to the children from teachers and the researcher within schools during the data collection, some children may not have felt comfortable asking for help due to being in a classroom-based environment with peers and staff. This will be further considered in the limitations and future research sections of this chapter.

Further qualitative research could be conducted to better explore and understand how differently parents and teachers view and understand mental health, and especially SBMH, from pupils. Having the topic as part of a focus group approach with pupils, parents, and teachers could allow for a detailed understanding of the discrepancies in the understanding of mental health in schools, which could in turn highlight potential areas for discussion between schools and parents. This would also allow for a better understanding of whether there actually are discrepancies between parents, teachers, and pupils, or whether the lower levels of inter-rater and test-retest reliability for pupils were due to a lack of pupil understanding of the MHISQ.

Overall parent and teacher responses on the MHISQ had better test-retest and inter-rater reliability than those of the pupils. This does not, however, mean that the responses from teachers and parents are more accurate. Whilst their responses may be in agreement with each other and more stable over time, it does not mean that the responses more accurately reflect how the children are feeling. Indeed, Marshall et al. (2017) and Day et al. (2017) suggest that teachers and parent lack understanding

of child MHD and it is important to consider that children are known to accurately report their health as young as the age of six (Riley, 2004). The findings from this study suggest, however, that parents and teachers may be better placed to complete the MHISQ on behalf of pupils, given that the stability over time and inter-rater reliability is greater than that of the pupils.

The ROC analysis showed that the MHISQ has higher sensitivity than specificity, at the chosen cut-off points for child and teacher participants, whereas parent data showed higher specificity than sensitivity. Sensitivity was prioritised for the purpose of this analysis and, in light of this, teachers appear to be the most appropriate group to complete the MHISQ. However, while teachers do show higher sensitivity values, this does mean that they are more likely to incorrectly classify a child as having MHD when they do not. In comparison with other measures of mental well-being, the specificity of parent responses is comparable to that of the RCADS (Ebesutani, 2009) but for the sensitivity of parent data, and the other participant groups, the values are slightly lower than that of the reference-standard measures previously referred to. It is believed that the sensitivity and specificity could be strengthened in future research by having more participants with MHD and SEN. Whilst the current study did follow recommendations from Hanley and McNeil (1982), which suggested an approximate sample size of 57 was required, with 19 of those being children with MHD, it could be that collecting data from clinical samples, rather than relying on self-report procedures, could lead to different findings in future.

The results of this study indicate that the MHISQ could provide a good starting point for measuring SBMHD in children aged 8 to 16 years in mainstream primary and secondary schools in the UK, given that it is built upon a wealth of research that identifies the main factors affecting SBMH and has undergone an initial validation process. At the same time, the ability of the measure to discriminate between those with and without SBMH could be improved and this will be further discussed in the ‘future research’ section of this chapter.

5.12 Limitations of the study and areas for future research

It is important to consider the limitations of this study and how the psychometric properties of the MHISQ could be further strengthened. It is worth noting that at the point of writing this thesis, schools were facing the aftermath of the Covid-19 pandemic school closures, during which a significant amount of learning was lost (Engzell et al., 2021). This proved difficult for recruitment, due to the additional time demands that it placed on parents and teachers. As a result, important aspects of the study were underpowered, in particular the number of pupils with SEN and with MHD. This prevented subgroup analyses being performed for these groups. As a result of this, we cannot yet identify how well the MHISQ works for these groups individually. While the MHISQ had lower sensitivity and specificity values than other measures of MHD in children, the measure itself contains items that are relevant to children with and without SEN, as demonstrated in previous chapters.

Further, whilst the study had an appropriate sample size of 184 participants (Cohen, 1992), in reference to the power analyses conducted, only 84 completed the measure on a second occasion for the purpose of test-retest reliability, and the parent and teacher groups were underpowered in relation to this analysis. The analysis for inter-rater reliability, in which parents and teachers were requested to complete the measure on behalf of a pupil, was also underpowered. It could be that discrepancies in code words occurred as a result of the self-report nature of the measure, in which parents and their respective children did not use the same code word. This could have prevented data from being matched between participants by the researcher. Further to this, multiple comparisons were made within the same dataset which could have increased the likelihood of false positive results. Bonferroni correction (Armstrong, 2014) was considered to prevent the problem of multiple testing; however, the method was deemed too conservative and may have resulted in a decreased ability to detect true effects within the data. As such, it was important for multiple analyses to be conducted due to the MHISQ being a new measure of SBMH.

Participants were able to self-report a diagnosis of MHD and SEN in the initial stages of the procedure, however, this could have been problematic due to the stigma associated with MHD. Previous research highlights that stigmatising attitudes surrounding MHD can start at a young age (Wahl, 2002) and are widespread (Henderson & Thornicroft, 2009). Whilst it is not possible to predict how children

felt when self-reporting their MHD, it is important to consider that stigma is a present issue in the Western world (Hutchinson & Bhugra, 2000) and children are among those who experience it (Mukolo et al., 2010). In future, researchers may wish to work with schools to tackle the stigma surrounding MHD before carrying out projects in relation to the topic. Workshops could be carried out within schools which help children to better understand their own mental health, but also that of others. In having workshops featuring open conversations about symptoms, diagnoses, and the challenges associated with MHD, this may enable children to feel more comfortable with the subject and also their own mental health. In turn, this could lead to more accurate reporting in relation to MHD.

Initially, the researcher intended to use only the self-report data in relation to MHD. However, it was then considered that younger children may not accurately report their mental health status and that those without a clinical diagnosis, but with MHD, may go unnoticed. In future, researchers could also consider recruiting via clinical services to ensure diagnoses are accurate.

Overall recruitment could perhaps have been improved by providing greater incentives for the schools and offering these to public participants. Given that schools are in the aftermath of the school closures and are playing 'catch up' with academic attainment, it could have been worthwhile to offer practical incentives, such as mental health workshops and talks on SBMH for staff. Future research could more actively include the prospective schools in the planning stages of the project, given that research by Armstrong (2015) states that for successful research to be conducted in schools, a strong academic-school partnership should be devised, in which researchers engage with schools from the initiation of the research topic to the development of the recruitment strategies and finally the dissemination of the findings.

It could also be possible that the length of the entire survey was off-putting to participants (Sharma, 2022), given that it was a requirement to complete not only the MHISQ but also the other measures, for the purpose of convergent validity. This was considered in the initial stages of choosing measures and one strength of using the SWEMWBS and the PANAS-C, was that they were significantly shorter than the RCADS-25 and balanced out the amount of effort required in the completion of the entire project. Research conducted by the School for Public Health Research (see Barker et al., 2022) has suggested that there are general difficulties in recruiting schools for research in the wake of the

Covid-19 pandemic, and that schools are increasingly reporting academic pressure and the need to 'catch up with the curriculum' as their response to recruitment invitations. Schools may also consider mental health research to be a sensitive topic, which they wish to protect students from. On the other hand, researchers could argue that schools are best placed to help children understand their own mental health and that their duty of care should also lie in helping facilitate the identification of children with MHD. It is also important to note that, despite discriminant validity being an important psychometric test, the researcher did not test this aspect of the MHISQ, given the already extensive length of the survey. Future research could consider measuring the discriminant validity of the MHISQ to ensure that it is not highly correlated with any unrelated constructs, this will in turn strengthen the robustness of the measure.

As the MHISQ has been shown to have good convergent reliability with the RCADS-25, SWEMWBS, and PANAS-C, future research could focus on participants with and without MHD only completing the MHISQ. This could also start the process of validating the MHISQ for children as young as six, given that the literature states this is the approximate age at which children are starting to self-identify poor mental health (Husky et al., 2018). The wider implications of the results will be discussed in full in the final chapter of this thesis.

5.13 Conclusion

The MHISQ demonstrated good face and content validity which has been built upon a wealth of empirical research in the field, as well as good internal consistency, test-retest reliability, and convergent validity. Sensitivity and specificity values varied across groups and are likely to have been influenced by the sample size. The MHISQ may be an appropriate starting point as a measure of SBMH in UK primary and secondary schools for TD children. However, more research is required to improve the sensitivity and specificity of the measure in order for it to be effective in identifying those with and without MHD in children with and without SEN in mainstream schools.

6.0 Chapter 6: Discussion

The overall aim of the thesis was to understand the factors associated with SBMH before designing and validating a new measure of mental health for pupils in mainstream primary and secondary schools, inclusive of those with SEN. This final chapter will summarise the findings of previous chapters and consider them in the wider context of current and past literature. Consideration will also be given to the limitations of the study and recommendations for future research will be discussed. Finally, an overall conclusion will be provided.

The aims of the first three chapters of this thesis were as follows: 1) to gain an understanding of the most relevant literature in relation to school-based mental health, 2) to systematically review the literature to explore the factors associated with SBMH, and 3) to explore the view of pupils, parents, and teachers in relation to SBMH, pre- and post- Covid-19. Whilst all chapters had different aims, similar results were present throughout.

6.1 Social relationships

The importance of friendships, teacher relationships and parental engagement to SBMH were common findings across Chapters Two, Three and Four. Consistent with previous research, in general, positive relationships with peers were seen as a positive contributor to SBMH (Coombes et al., 2013; Jessiman et al., 2022), whereas negative peer relationships and bullying were seen to impact negatively on general life satisfaction (Goswami, 2011). Topics in respect of social relationships were common on the parent forum analysed for Chapter Four and this allowed for an understanding of the most popular discussion points surrounding schools in the UK. Common words found were “family”, “friend”, and “home” and these findings were relevant to the previous literature which highlights that parental involvement correlates with increased self-esteem and confidence (Sher, 2019) and positive friendships increasing a sense of community among pupils in the school environment (Xu et al., 2023). Words relating to bullying behaviour and adversities were also common topics in the data, with the words “bully”, “behaviour”, and “upset” being prominent. In the context of the current literature, it is known that bullying can have substantial consequences for the victim (Takizawa et al., 2014). Children who are bullied are more likely to skip school (Nikolaou, 2022) and are also more likely to score lower on tests (UNESCO, 2015), both of which are known to be contributors to MHD. Bullying

also results in long-term consequences, with adults who have been subject to bullying behaviour being at a heightened risk of poor quality of life in adulthood (Takizawa et al., 2014).

The influence of social relationships on SBMH was also a common theme within Chapter Three. This chapter allowed for a wider focus on how the Covid-19 school closures affected pupils. The school closures were a time of uncertainty for the population and a time during which social isolation was heightened due to the restrictions imposed by the UK government. This meant that children who had to continue their education at home missed out on substantial direct contact time with their teachers and peers (Hoffman et al., 2020). Pupils reported staying in touch with their friends via social media during the school closures, but some still felt a sense of loneliness. This is unsurprising considering that the closures hindered the opportunity for social interaction and play (Buchanan et al., 2022). It must also be considered that the return to school in the following academic year was not without its problems and children experienced challenging social distancing rules which meant that they could only play with children in their social 'bubble' (Blanden et al., 2021). Furthermore, young children showed increased irritability and clinging behaviour as a result of the pandemic (Singh et al., 2020) and this was seen as detrimental to the children's wellbeing upon their return to school.

It was also found that the general school setting is important in promoting positive mental health, with those schools which promote inclusion and positive peer support being known to be successful in facilitating a sense of belonging (Humphrey & Wigelsworth, 2012; Mahmud, 2019). Within schools, it is important to consider how pivotal positive teacher relationships are to the mental health of school pupils. Positive relationships with teachers are known to help to create a heightened sense of inclusion (Long et al., 2021) and lower psychological distress (Harding et al., 2019). This has been found to be particularly important for autistic children, with teachers helping the children to form and maintain relationships with their classmates (Tobias, 2009). On the other hand, negative teacher relationships, portrayed through a lack of understanding and consistency, were known to have adverse effects on mental health (Jessiman et al., 2022; Kidger et al., 2015).

Chapter Three further highlighted the need for positive teacher relationships during school closures. Teachers were seen as a pivotal figures throughout this period, with parents and pupils

looking to teachers for academic and emotional support in a time of uncertainty. Contact between teachers and pupils was encouraged using online learning platforms but the findings from this study suggested mixed views on the level of support teachers offered. Whilst some participants reported feeling supported by their teachers, through frequent contact and schoolwork being sent home, some pupils reported feeling a sense of abandonment by their teacher and this could have negatively impacted pupil-teacher relationships. This is an important consideration when taking into account that negative pupil-teacher relationships can cause low self-esteem and higher levels of mistrust among pupils (Goldstein et al., 2005; Roffey, 2012).

6.2 Academic pressure and attainment

Another common finding from the initial chapters of the thesis was the association between academic pressure, achievement and SBMH. Academic pressure has previously been reported to contribute to heightened levels of anxiety, depression, and feelings of incompetence in pupils(Coombes et al., 2013; McLellan & Steward, 2015) and this was supported by the results outlined in Chapters Two and Three. Examinations are known to provoke symptoms of anxiety (Coombes et al., 2013), with pupils achieving lower than the government standard at KS2 being at a heightened risk of experiencing poor mental health later in life (Rahman et al., 2018). In contrast, pupils working at the expected level are known to experience fewer problems in relation to self-esteem (Gibbons & Silva, 2011). Further to this, Chapter Three highlighted that teachers believed children who were working towards the expected standard of government expectations struggled to adapt to online learning during the school closures and that this had likely caused the pupils to fall behind in terms of their academic achievement, something which is known to contribute to heightened levels of anxiety (Denscombe, 2000). Alongside this, parents were concerned over the level of support they were able to offer their children throughout the school closures and home-schooling was seen as an emotionally distressing time (Khan, 2022).

6.3 Individual differences and socio-economic status

Some of the factors influencing SBMH are able to be managed by school staff and whole-school approaches, such as bullying and examination stress. However, there are two factors found in this

research which are believed to be more difficult for schools to control: individual differences, such as gender, and SES, and these are both known to have an impact on academic achievement in some way. It is known that MHD can vary according to gender, with females experiencing MHD more frequently than males (Gutman et al., 2018; West & Sweeting, 2003), this is known to be both generic and in relation to academic achievement (Long et al., 2021; McLellan & Steward, 2015). However, it must be considered that the current literature suggests that males are less likely to speak out about their mental health (McKenzie et al., 2018). Considering this, suggestions from Chapter Two in relation to gender differences in mental health must be viewed with some caution. Given the rise in campaigns promoting male mental health, it could be suggested that MHD levels amongst males may rise over the years due to more disclosure of such problems.

In relation to SES, children from disadvantaged backgrounds are said to experience lower levels of attainment (Hall, 2010). Many children from higher SES families are able to access better academic opportunities, such as private tuition and out-of-school clubs (Mahmud, 2019) and such experiences are known to be key in contributing to positive mental health due to their ability to boost academic attainment (Hall, 2010). The findings from Chapter Three indicate that the impact of the SES gap was even more prominent within education during the school closures, and it was found that children from low-income families were seen at a heightened risk of experiencing educational inequalities, something which was believed to be due to limited access to technology (Van de Werfhorst, 2021), yet some participants reported having the means to access private tuition to keep their child on track throughout the school closures. However, it is important to consider that this opportunity is not available to all children and could have contributed to the already enlarged academic attainment gap within primary and secondary schools between children from low and high SES backgrounds.

Words such as “attendance”, “income” and “gender” were also present among the data in Chapter Four, adding to the credibility of the previous findings in Chapters One to Three, and should be considered in line with the current literature. It is known that children from disadvantaged backgrounds have poorer relationships with teachers than those from more affluent backgrounds (Crowley & Vullinay, 2007). Furthermore, children from less affluent backgrounds are known to be at

a heightened risk of experiencing bullying behaviour and truancy from school (Ridge, 2011). On the other hand, children from affluent backgrounds are known to face extra pressures in relation to their academic attainment which is known to be a contributor to poorer mental health (Sahlberg & Doyle, 2019).

Differences between TD children and children with SEN in relation to SBMH were also among the findings of the initial two chapters. Not only are children with SEN more likely to experience poorer educational outcomes (DfE, 2013), with more children with SEN 'working towards' the expected standard in comparison to TD pupils, but they are also at a higher risk of experiencing adverse events in terms of social participation, engagement, and acceptance (Kouvava et al., 2022). Generally speaking, rates of MHD are higher among children with SEN as opposed to TD children (Deighton et al., 2019).

6.4 Designing and validating a new measurement tool for SBMH

Overall, the findings from Chapters Two to Four of this thesis highlighted the need for a robust measurement tool specifically designed for SBMH, inclusive of children with SEN. It was found that the measurement tools for mental health in the school context are either outdated or not appropriate for use for children with SEN. The measurement tools also lacked appropriate psychometric testing, as outlined in Chapter One. The findings from the literature, interviews, and forums then allowed for the design of a new measurement tool of SBMH: the MHISQ and this was covered in Chapter Five.

Items were selected based on the literature and results from the initial chapters and then later refined by utilising a pilot study, capturing the opinions of relevant stakeholders about the MHISQ. Final items were selected based on their relevance and ease of understanding and the overall length of the measure was influenced by guidance in the literature, resulting in a 16-item measurement tool. The MHISQ was then validated in one primary and one secondary school for CYP ages eight to 16 years.

The MHISQ showed good convergent validity between the RCADS-25 (Ebesutani et al., 2012), the SWEMWBS (Tennant et al., 2007) and the PANAS-C (Ebesutani et al., 2012). This indicated that the new measure was assessing some aspects of anxiety and depression, low and high

mood, and general mental well-being, although it appeared to be better correlated with general mental well-being. The MHISQ showed good internal consistency for all participants combined and for parent and teacher groups, and acceptable reliability for the pupil group. Furthermore, the MHISQ demonstrated strong to medium test-retest reliability and inter-rater reliability for all participant groups, with the exception of the pupil and parent inter-rater reliability which was poor. This discrepancy could be explained by limited understanding of child mental health on the part of parents, something which is identified in the literature as being a common problem (Marshall et al., 2017). Finally, the MHISQ was shown to have comparable specificity levels to that of the RCADS-25, but sensitivity levels were lower than the reference-standard measures referred to

The results of Chapter Five suggest that the MHISQ may be a good starting point for a new measure of SBMH that can be used in mainstream primary and secondary schools with TD pupils and pupils with SEN. However, further validation is needed to ensure the MHISQ is reliable in distinguishing those with and without MHD for both TD pupils and pupils with SEN.

6.5 The aim of designing and validating a new measure for SBMH

Collectively, the achievement of the aims of each study in this thesis contributes to addressing the overall aim of designing and validating a new measure for SBMH. Firstly, the literature review followed by the systematic review allowed for an in-depth understanding of the current literature surrounding SBMH and provided guidance for the interview schedules in the subsequent chapter. The subsequent qualitative study then allowed for further insight into the perspectives of stakeholders about SBMH, in the context of the Covid-19 school closures. Next, retrieving open-source data from parenting forums allowed for a more nuanced approach to understanding the real, in-the-moment discussion between parents on the factors associated with SBMH and this method allowed for a much larger dataset to be analysed. Finally, the MHISQ was designed based on the findings of the previous chapters and subsequently validated in two UK schools. Whilst the MHISQ cannot yet be deemed a fully reliable and valid measurement tool in distinguishing between those with and without MHD, the results do go some way in contributing to such a measure. Further research and validation into the MHISQ could see it develop into an effective and useful measurement tool that is free, easy, and quick to use in UK mainstream primary and secondary schools.

6.6 Limitations and future directions

The limitations of each study in this thesis have been discussed in detail in the relevant chapters, but there are some limitations to consider overall. The main limitation of this thesis is the inadequate sample size in relation to children with SEN and MHD. This was directly caused by difficulties in the recruitment process, and this is believed to be a consequence of the Covid-19 pandemic school closures.

This limitation had the greatest impact on the results outlined in Chapter Five of the validation of the MHISQ, as the tool was designed to be relevant for children with SEN. The underpowered sample size for CYP with SEN and MHD may be one reason why the specificity and sensitivity levels were slightly lower than those of the reference-standard measures used in the comparison. The recruitment of schools for the purpose of validating the MHISQ came with its challenges, and this was believed to be due to schools 'catching up' post Covid-19 school closures (Gambi & De Witte, 2021). A large number of schools were contacted in the initial stages of recruitment and showed an interest in taking part, yet only one primary and one secondary school ultimately took part. Within the data collection periods in the schools, many participants were unable to take part due to unforeseen illnesses and school activities. Recruiting parents and teachers on a second occasion to complete the MHISQ in relation to the CYP was also difficult and, despite follow-ups and prompts from the researcher, some participants did not complete the second round. Furthermore, there may have been discrepancies in code words between participants due to this part of the data collection being unsupervised. If so, this could have prevented data from the teachers and parents from being matched with the correct CYP.

As mentioned in the limitations section of Chapter Five, MHD status was self-reported by the participant and this could be reported by the pupil, teacher, or parent. As such, there may have been discrepancies in the disclosure of MHD for some pupils and this may mean that data was not fully accurate in respect of how many participants had MHD. The researcher did examine the data closely to check for discrepancies in information between pupils, parents and teachers, but a more robust method for determining mental health status should be considered in future validation work of the

MHISQ. Future research could consider using clinical diagnoses of MHD, as reported by parent/teacher when distinguishing between children with and without MHD.

The MHISQ has been shown to have some robust psychometric properties, including in relation to convergent validity, test-retest reliability and inter-rater reliability, however, further validation is needed, focusing specifically on the sensitivity and specificity of the measure, to ensure it is accurately identifying MHD in both TD pupils and pupils with SEN. Doing so would likely be a more methodologically straightforward and less time-consuming process as schools would only need to take part in one round of data collection. Doing this out with the time constraints of a PhD thesis would also allow a longer recruitment period.

If subsequent research demonstrates that the MHISQ is a reliable tool for identifying MHD among TD pupils and pupils with SEN, in terms of its specificity and sensitivity, then the next step could be evaluating its wider use within educational settings and receiving stakeholder feedback in relation to this. One common topic explored throughout this thesis is the difference in the understanding of MHD in the school context between pupils, parents, and teachers. The MHISQ can go some way in helping stakeholders to understand the factors associated with SBMH within the school context and can be used alongside appropriate interventions to promote positive mental health within primary and secondary schools.

6.7 Implications for practice

The findings from the studies in this thesis have various implications for practice. Chapter Three highlighted the specific implications in school life post-Covid for parents and educational practitioners, but it is also important to consider the implications on a wider scale from this research.

When considering the literature from Chapters One and Two, and the findings from Chapters Three and Four, the results could help inform practitioners about school-based factors which can influence mental health, how these may differ for children with SEN, and which interventions might be most helpful in reducing mental health difficulties. For example, interventions which aim to improve social relationships (see Boniwell et al., 2016 and Stallard et al., 2013), may need to be adapted to account for the additional difficulties that some children with SEN face when forming and maintaining friendships.

It is known that forming and maintaining positive friendships can enhance pupil mental health and, as such, it is important that schools work to foster an inclusive and supportive school environment which promotes positive social interactions and does not tolerate bullying, given that bullying is known to exacerbate MHD (Guest, 2021). In light of this, schools should ensure they develop clear and comprehensive policies and procedures for preventing and dealing with bullying behaviour as well as a positive whole-school approach to promote a sense of belonging among pupils (Acosta et al., 2019). In relation to this, schools could provide opportunities to form social connections, something which can be done through the use of extracurricular activities, in which children can form relationships with those with similar interests (Bagwell & Schmidt, 2013). Further, schools should consider providing support and resources for pupils who struggle with forming and maintaining social connections. This can include peer mentoring (otherwise known as buddy systems in the UK) or counselling services within the school (Cartwright, 2005). Educational practitioners should also understand the importance of identifying bullying behaviour and be able to provide appropriate sources for both pupils who have experienced bullying, and also their families.

Furthermore, parental involvement is reported to be a key aspect of SBMH and it is important that schools promote and support constructive parental involvement as much as possible. Schools can work to develop clear and consistent pathways to help facilitate communication between schools and parents. An example of a current strategy within the UK is Class Dojo (DiGiacomo et al., 2022), which is a communication platform in which parents can view their child's attendance, achievements, and homework. Having such a platform allows parents to keep in touch with the school and be up to date with current progress. The Department for Education (2011) highlight that parents can be involved in activities such as school visits, listening to pupils read during the school day and helping with school drama productions. Schools should also ensure they review how well they are working in collaboration with parents and should identify any areas for improvement at regular intervals (Department for Education, 2011). These recommendations are in line with the previous literature which states that parental engagement can help to promote positive mental health amongst CYP (Wang et al., 2014).

In relation to the MHISQ, given the robust face and content validity of the items, the measure could be used in the education sector to increase staff understanding about SBMH, particularly because teachers may experience difficulty with identifying children with this, as opposed to those with behavioural difficulties (Papandrea & Winefield, 2011). It is possible that some children with SBMH go unnoticed because they do not report their difficulties or display 'red flags' such as academic difficulties or other behavioural issues (Atzaba-Poria et al., 2004). The MHISQ items could provide a framework to help these children to be better identified.

The items could also be a starting point for teachers to gain a better understanding of SBMH, and how the associated factors may present themselves differently from the typical anxiety and depression symptoms. It is known that many teachers do not receive sufficient input in relation to mental health throughout their teacher training (Andrews et al., 2014) and that this often carries into their careers, with many feeling ill-equipped to deal with MHD (Cassady, 2011). It could also help inform interventions by identifying areas to target to facilitate better mental health in schools. For example, current interventions tend to have a broad mental health focus, such as the Personal Wellbeing Lesson Curriculum (Boniwell et al., 2016) which focuses on positive emotions and relationships, and Think, Feel, Do (Attwood et al., 2012) which focuses on CBT strategies for emotional regulation.

Schools could also use the findings in relation to teacher relationships to emphasise the importance of the rapport that teachers have with pupils, and how negative relationships between staff and pupils can influence pupil MHD. The importance placed upon academic attainment, especially around examination times within primary and secondary schools, could also be considered by educational staff and interventions could be introduced which could help children to find coping mechanisms to relieve stress and anxiety at these times.

6.8 Overall conclusions

The aim of the research outlined in this thesis was to design and validate a new measure of SBMH for use in UK mainstream primary and secondary schools. The research has highlighted the most prominent factors contributing to SBMH and the empirical findings from the relevant chapters have contributed to the development and validation of the MHISQ which was designed to be used in

mainstream schools for CYP aged eight to 16 years. Importantly, this thesis has demonstrated the need for a robust measurement tool which is available to use freely within UK schools and, although further work is needed on the validation of the MHISQ, this novel research and measure have contributed significantly to the understanding of specific factors of SBMH, inclusive to children with SEN.

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9.0 Appendices

Appendix 1 – The definitions, settings, and countries within which different terms used throughout the thesis are commonly used

Term	Definition (s)	Settings within which commonly used	Countries within which commonly used	Notes
Special Educational Needs (SEN)	Difficulties (e.g., in thinking, understanding and learning; emotional and behavioural; speech, language and communication; and physical or sensory) that make it hard for children to learn at a similar rate to their same age peers (Gulliford & Upton, 2002).	Education	United Kingdom (UK)	
Intellectual Disability	Significant impairment in intellectual and adaptive functioning with childhood onset (American Psychiatric Association, 2013).	Health	Internationally	The terms 'learning disability' and 'learning difficulty' are used interchangeably with 'intellectual disability' in the UK.

Learning Disability	In reference to individuals who find it harder to learn, communicate and understand (Emerson & Heslop, 2010).	Health	UK	
Learning Difficulty (LD)	Refers to individuals who face specific challenges in relation to their learning as a result of medical, emotional or language problems (Holland, 2011). Examples include: dyslexia, ADHD and dyspraxia.	Education	UK	
Social Emotional Mental Health (SEMH)	A broad range of characteristics, including, but not limited to, disruptive and antisocial behaviour, frustration and anger, anxiety and self-harm, and drug abuse (Carroll & Hurry, 2018). The second most prevalent diagnosed mental health	Health	UK	

	condition in mainstream schools in the UK and accounts for 19.4% of the Special Educational Needs figures (Department for Education, 2022).			
Typically Developing (TD)	Children who develop at the 'typical' or expected rate. Such children show normal progression in terms of their development as they grow older, this is due to acquiring and refining knowledge, behaviours, and skills.	Health	Internationally	
Mental Health Difficulties (MHD)	The inability to think, feel, and act in the desired way and encompasses diagnoses such as anxiety and	Health	Internationally	

	depression (World Health Organisation, 2022).			
Psychological Well-Being (PWB)	Involves both hedonic and eudaimonic happiness, as well as resilience. Hedonic PWB is associated with feelings of enjoyment and pleasure, whereas eudaimonic PWB involves meaning in life and fulfilment and resilience relates to the way an individual copes, regulates their emotions, and solves problems (Tang et al., 2019).	Health	Internationally	
Children and Young People (CYP)	Children and adolescents between the ages of 2 to 19 (World Health Organisation, 2022).		Internationally	
School-based Mental Health (SBMH)	Psychological and emotional well-being within the school context.		For the purpose of this thesis	

Autism Spectrum Disorder (ASD)	A lifelong condition that first presents in early childhood and can range from mild to severe (American Psychiatric Association, 2013). Notable challenges associated with ASD include: understanding emotions of others (Harms et al., 2010), sleep difficulties (Malow et al., 2016) and social isolation (Humphrey & Lewis, 2008).		Internationally	

Appendix 2 – Participant information and consent for Chapter 3

Start of Block: Default Question Block

Q3 **An exploration into the views of parents, teachers and children about the main school-related factors that influence the psychological wellbeing of children – pre and post the Covid-19 pandemic.**

We would like to invite you to take part in a study that will explore your views about the main school-related factors which influence the psychological wellbeing of children.

What is the purpose of the study?

Previous research has outlined that anxiety levels amongst school pupils is rising, however there is limited research about the specific school related factors that influence pupil psychological wellbeing. In this study we will explore the views of parents, teachers and school pupils regarding the main school-related factors that influence the psychological wellbeing of children. We are also interested in exploring whether these have changed following the restrictions resulting from the current Covid-19 pandemic.

Why have I been invited to take part?

You have been invited to take part because you are 18 or over and either the parent of a child who attends school in the United Kingdom or a teacher at a school in the United Kingdom.

You can also take part if you are a child who attends school in the United Kingdom and your parent/guardian gives consent for you to participate. Parents of children who were home-schooled prior to the Covid-19 restrictions should not take part.

Do I have to take part?

The information provided will enable you to make a decision, you do not have to participate in this study. If you do decide to take part, please remember that you have the right to withdraw at any time, without reason.

What will happen if I take part?

If you decide to take part, you will first be required to indicate your consent below and provide contact and demographic information about yourself and your child (if applicable) e.g. age, gender, age of child. You will then be contacted by the researcher to arrange a suitable time for a telephone/face-to-face interview. The interview will take approximately 20-60 minutes and you will be asked to provide your views about the school-related factors that you think influence the psychological wellbeing of children. The interviews will be recorded. Your name will not be included in any of the data collection, simply your memorable code word which you will be asked to create after granting consent.

The consent information will be stored separately from your other data. The data collected from you in this study will be confidential. The only exception to this confidentiality is if the researcher feels that you or others may be harmed if information is not shared.

How will my data be stored, and how long will it be stored for?

All participant information will be kept securely. All data, including the recordings from your interview, will be stored on a macbook which is password protected. All data will be stored in accordance with University guidelines and the Data Protection Act (2018). The data will be stored for one year until analysis is complete and then it will be destroyed, unless it is used in a publication, in

which case it will be stored for longer.

What categories of personal data will be collected and processed in this study?
The details required are location, age, gender, your child's age and your responses to the interview questions.

What will happen to the results of the study and could personal data collected be used in future research?The study is being carried out as part of a PhD Research project in Northumbria University's Psychology department. If we use the data in an academic context (e.g. if we publish our findings in an academic journal), then we might be obliged to make the dataset available publicly and indefinitely, but it will not be possible to identify you from the dataset. If the data are not used for academic purposes but only for the purposes of the Postgraduate Research project, then we will destroy everything that we collect within around six months following the completion of the project. This study has been approved by the Northumbria University Psychology Department Research Ethics Committee.

Who is organising and funding this study?
Northumbria University Newcastle.

Who has reviewed this study?
This study has been approved by the Northumbria University Psychology Department ResearchEthics Committee (Postgraduate) Reference number: 23861

How do I find out more?
If you have any questions or would like further information, please contact any of the following: Researcher: Chantelle Francis (chantelle.francis@northumbria.ac.uk)Supervisor: Karen McKenzie (k.mckenzie@northumbria.ac.uk)Ethics Approval contact (including concerns, complaints): hl.pgethics@northumbria.ac.ukData Protection Officer at Northumbria University (the Data Controller): Duncan James (dp.officer@northumbria.ac.uk)
GDPR information: The legal basis for the study's personal data processing is that the research is being conducted in the public interest, and/or is necessary for scientific and historical research purposes. You have the right to access your data upon request. Contact the Information Commissioner's Office for further information, and/or complaints about the University's processing of personal data: https://ico.org.uk/

End of Block: Default Question Block

Start of Block: Block 2

CONSENT FORM

Project Title: An exploration into the views of parents, teachers and children about the main school-related factors that influence the psychological wellbeing of children – pre and post the Covid-19 pandemic.

Principal Investigator: Chantelle Francis

I understand the nature of the study, and what is required from me. I understand that after I participate I will receive a debrief providing me with information about the study and contact details for the researcher. I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing, and without prejudice. I agree to provide information to the investigator and understand that my contribution will remain confidential. I also consent to the retention of this data

under the condition that any subsequent use also be restricted to research projects that have gained ethical approval from Northumbria University.

☐ I agree (9)

Q20 **CHILD-FRIENDLY CONSENT FORM**
PARENTS: Please ensure your child reads and signs this, if they are able to. Otherwise, please read the following to your child and allow them to sign consent if they are happy to do so.

What is this study about? This study will look at what makes pupils happy, excited, sad and stressed in school.
Why should I take part in this? By taking part, you could help us to create a quiz that could be used in schools in the future. This quiz would be able to help pupils who may be feeling sad or upset in school.
Will this take long? This interview will take between 20 and 60 minutes.

Don't forget! You can ask your parent/guardian to leave the interview at anytime and you can take a break if needed. Please also remember that you do not have to take part in this if you do not wish to.

☐ I consent for my child to take part in this study (1)

☐ Consent given by the child in question (2)

Q13 Your name

_____

Q15 Your contact phone number or email

_____

Q12 If relevant, and you also agree to your child participating in the study, please click 'I agree'

○ I agree (1)

Q14 Your child's name (if applicable)

_____

Q18
Please enter a memorable code word in the box below. If at any point during this study, you wish to have your data withdrawn, please send an email with the request including your code word to chantelle.francis@northumbria.ac.uk.

Please use the following key to create your code word: the first two letters of the month you were born, the first two letters of your mothers maiden name and your house number.

_____

Q19 Would you be happy to be recruited for future studies surrounding this area of interest?

- ○ Yes, please recruit me for future studies. (1)
- ○ No, I would not like to be contacted again. (2)

Q17 If at any time you would like to reach out for support regarding your child, please contact Children North East; a local charity with a mission to make growing up for babies, children and teens easier in tough situations.

North East
Children North East,
89 Denhill Park,
Newcastle upon Tyne,
Tyne and Wear,
NE15 6QE enquiries@children-ne.org.uk
+44 (0)191 256 2444

Nationwide
Place2Be
175 St John St
Clerkenwell
London
EC1V 4LW
enquiries@place2be.org.uk020 7923 5500

Q16 To complete the demographics questionnaire, please click here.
If the link does not work, please copy and paste the link below into your browser:
https://nupsych.qualtrics.com/jfe/form/SV_abE9P7H8RvhhBe5

This will ensure your personal details are not connected to your other answers.

End of Block: Block 2

School -related factors and mental Health_Demographic Information

Start of Block: Default Question Block

Q1 Thank you for agreeing to take part in our project. Please provide the information requested below.

Q2
Please enter a memorable code word in the box below. If at any point during this study, you wish to have your data withdrawn, please send an email with the request including your code word to chantelle.francis@northumbria.ac.uk.

Please use the following key to create your code word: the first two letters of the month you were born, the first two letters of your mothers maiden name and your house number.

_____

Q3 What is your age?

_____

Q4 What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Other (3) _____

Q5 What is your occupation?

_____

Q6 Where do you live?

- ○ England (1)
- ○ Scotland (2)
- ○ Wales (3)
- ○ Northern Ireland (4)

Q7 What is your ethnic origin?

_____

Q8 What is the age of your child? (if applicable)

_____

Q9 What is the gender of your child?

- ○ Male (1)
- ○ Female (2)
- ○ Other (3) _____

Q10 What is the ethnic origin of your child?

_____

Q11 Does your child have any condition that affects their learning e.g. a learning difficulty?

- ○ Yes (please specify) (1) _____
- ○ No (2)

End of Block: Default Question Block

Start of Block: Block 1

Q12
PARENT DEBRIEF
Thank you for taking part in the research.

What was the study about?
We hope that the results of the study will help us understand more about the school related factors that influence the psychological wellbeing of children.

How will I find out the results of the study?

If you would like to find out about the results, if you have any questions, or you would like to withdraw your data from the project, please contact one of the following:

Researcher: Chantelle Francis (chantelle.francis@northumbria.ac.uk)

Supervisor: Karen McKenzie (k.mckenzie@northumbria.ac.uk)

Ethics Approval contact (including concerns, complaints): hl.pgethics@northumbria.ac.uk

Data Protection Officer at Northumbria University (the Data Controller): Duncan James (dp.officer@northumbria.ac.uk)

If you change your mind about taking part, and would like to withdraw from the study, please contact us as soon as possible. We will honour withdrawal requests where we can, but there may come a point, such as submission of the Thesis Research project to Northumbria University, where it will no longer be possible to remove your data from the completed analysis, or to delete your data from the dataset.

If at any time you would like to reach out for support regarding your child, please contact Children North East; a local charity with a mission to make growing up for babies, children and teens easier in tough situations.

North East
Children North East,
89 Denhill Park,
Newcastle upon Tyne,
Tyne and Wear,
NE15 6QE enquiries@children-ne.org.uk
+44 (0)191 256 2444

Nationwide
Place2Be
175 St John St
Clerkenwell
London
EC1V 4LW enquiries@place2be.org.uk 020 7923 5500

Q13
CHILD-FRIENDLY DEBRIEF Thank you for taking part in the research.

This study will help us to understand what makes children happy and sad within school. We hope to

be able to help those children who find school difficult or stressful.

If you would like to know how this study went, please ask your parent or guardian to contact one of the following:

Researcher: Chantelle Francis (chantelle.francis@northumbria.ac.uk)
Supervisor: Karen McKenzie (k.mckenzie@northumbria.ac.uk)
Ethics Approval contact (including concerns, complaints): hl.pgethics@northumbria.ac.uk
Data Protection Officer at Northumbria University (the Data Controller): Duncan James (dp.officer@northumbria.ac.uk)

Don't forget, if you decide that you do not want to take part in this study anymore, please just let us know!

Parental guidance: If you change your mind about taking part, and would like to withdraw from the study, please contact us as soon as possible. We will honour withdrawal requests where we can, but there may come a point, such as submission of the Thesis Research project to Northumbria University, where it will no longer be possible to remove your data from the completed analysis, or to delete your data from the dataset.

End of Block: Block 1

Appendix 3 – Interview schedule for parent and teacher participants for Chapter 3*

**Wording changed based on the participant in the interview*

1. Prior to the Covid-19 restrictions, what were the main school-related factors that you thought impacted negatively on the mental health of (your child/the children you teach) Possible topics to explore:
    a. Curriculum
    b. Friendships
    c. Bullying

2. What type of things helped to reduce this negative impact? Possible topics to explore:
    a. After school clubs,
    b. Private tutoring,
    c. Focusing on child's strengths

3. Prior to the Covid-19 restrictions, what were the main school-related factors that you thought impacted positively on the mental health of (your child/the children you teach) Possible topics to explore:
    a. Curriculum
    b. Friendships

4. Is your child still attending school? If so, what kind of experience has it been for them emotionally and academically? Possible topics to explore:
    a. Isolated from friends
    b. Disruption to routine and normal lessons

5. Are you still a teacher working in a school? If so, how have you found the experience?
    a. Coping with children's emotional needs
    b. Upkeeping online teaching as well as classroom-based
    c. Workload along with family life

6. At the moment, what are the main school-related factors that you think are impacting negatively on the mental health of (your child/the children you teach) Possible topics to explore:
    a. keeping up with curriculum
    b. pressure to home school
    c. loss of contact with friends
    d. safety concerns

7. What type of things are helping to reduce this negative impact? Possible topics to explore:
    a. After school clubs
    b. Private tutoring
    c. Focusing on child's strengths

8. At the moment, what are the main school-related factors that you think are impacting positively on the mental health of (your child/the children you teach) Possible topics to explore:
    a. Less daily pressure of school
    b. Learning at own pace
    c. Support from parents
    d. Different ways of learning/teaching online

9. Prior to the COVID-19 outbreak in early 2020, how did you feel about (your child's/the children you teach) progress in school, academic and socially? How do you feel about this now?

10. What do you think the long-term impact of the pandemic will be on {children's mental health, friendships, academic attainment, long-term job prospects]?

11. Can you suggest any ways in which you think any long-term negative impacts could be reduced?

12. An outcome of this study is to create a standardised measure to test mental health amongst school pupils, what factors do you believe can affect the emotional wellbeing of a pupil, positively and negatively?

Child interview questions for chapter 3:

1. Before the covid-19 restrictions, was there anything you did not enjoy about school? Possible topics to explore:
    a. School work
    b. Friendships
    c. Teachers

2. If so, what type of things made you feel better about your dislike?

3. Before the covid-19 restrictions, what were your favourite things about going to school? Possible topics to explore:
    a. Friendships
    b. After school clubs
    c. Teachers

4. Right now, how do you feel about the lockdown? Possible topics to explore:
    a. Not seeing friends
    b. Missing school life and routine
    c. Missing schoolwork

5. Right now, what is making you feel better about being off school? Possible topics to explore:
    a. Less pressure
    b. More time with parents

6. How do you feel about going back to school in the future/being back at school?

7. If there was to be a measure created to assess emotional wellbeing amongst children in school, what topics do you feel would be worthwhile to talk about? i.e. bullying, schoolwork, home life.

Appendix 4 – Hyper parameters* for the topic model in Chapter 4

Alpha values: 0.01, 0.21, 0.41, 0.61, 0.81, asymmetric, symmetric

Beta values: 0.01, 0.21, 0.41, 0.61, 0.81, symmetric

Topics: between 1 and 15

*See footnote 9.

Appendix 5 – Recruitment email (Pilot study)

Subject: Recruitment for research

Dear *enter name here*,

You are invited to take part in a study that is obtaining views about a measure of psychological well-being for use in mainstream primary and secondary schools. You are eligible to take part in this study if you are one of the following:

- A parent (aged 18 years or over) of a child, aged 6 – 16 years, in a mainstream primary or secondary school. We would also like your child to take part.
- A teacher (aged 18 years and over) in a mainstream primary or secondary school

If you are associated with a special school, private school or home-school tuition, you should not take part in this study.

The study will take approximately 10 minutes to complete and you will view the measure of psychological well-being before being asked a series of questions relating to it.

This study has been approved by Northumbria University Ethics Committee, reference number: 44666.

To find out more and take part, go to (insert Qualtrics link here).

Kind regards,

Chantelle Francis

Appendix 6 – Recruitment email for Chapter 5

Subject: Recruitment for research

Dear *enter school name here*,

You are invited to take part in a study that is validating a new measure of psychological well-being for use in mainstream primary and secondary schools. You are eligible to take part in this study if you are:

- A mainstream primary or secondary school in the North-East of England

Your pupils can take part in the study if they are:

- Aged between 8 and 16 AND are granted parental consent by their parent or guardian

Participants will be asked to complete three/four (delete as necessary) measures of psychological well-being and this will take approximately 10 minutes.

You will receive a £100 Amazon voucher for your participation in the study.

This study has been approved by Northumbria University Ethics Committee, reference number: 43236.

If you would like to find out more or take part, please reply to this email and we can organise a meeting, this can be at your convenience and either in-person or via Teams or Zoom.

Kind regards,

Chantelle Francis

Appendix 7 – Recruitment poster for Chapter 5

Northumbria University NEWCASTLE

This study has been approved by the University Ethical Approval systems (#43236) at Northumbria University

RECRUITING PARENT AND CHILD PARTICIPANTS

You can take part in this study if:

- You are a over the age of 18 AND a parent to a child aged between 8 and 16 who attends a mainstream primary or secondary school in the North-East of England
- You are a child aged between 8 and 16 attending a mainstream primary or secondary school in the North-East of England

What is the study about?

- Research shows that the psychological well-being of children and adolescents can be affected by several school-related factors, including, but not limited to: bullying, teacher relationships and academic struggles.
- This study aims to validate a new measure of psychological well-being to be used in mainstream primary and secondary schools in the United Kingdom.

What will I be asked to do?

You and your child will be asked to complete a short survey including a new measure of psychological well-being, along with two (ages 8 - 11) or three (ages 11 – 16) other measures.

You will be asked to complete this with your child on two separate occasions, two weeks apart, and the process will take approximately 10 minutes.

Resource for support:

Place2Be 175 St. John Street,
Clerkenwell,
London
EC1V 4LW

enquiries@place2be.org.uk
020 7923 5500

Please follow this link to complete the survey:

insert link and QR code

Please contact chantelle2.francis@northumbria.ac.uk for any queries relating to this study

Appendix 8 – Survey used for validation study in Chapter 5

New Measure Validation

Survey Flow

EmbeddedData
parentcodeValue will be set from Panel or URL.
childcodeValue will be set from Panel or URL.

Standard: Code (3 Questions)
Standard: Type of participant (4 Questions)

Branch: New Branch
If
If Please select who will be completing this survey from the list below, you are able to choose more... Teacher Is Selected

Standard: MHD/SEN status (3 Questions)
Standard: New Measure Teacher (1 Question)
Standard: RCADS-P Teacher (1 Question)
Standard: SWEMBWS Teacher (2 Questions)
Standard: PANAS-C Teacher (2 Questions)

Branch: New Branch
If
If Please select who will be completing this survey from the list below, you are able to choose more... Parent Is Selected

Standard: MHD/SEN status (3 Questions)
Standard: New Measure Parent (1 Question)
Standard: RCADS-25-P (1 Question)
Standard: SWEMBWS Parent (2 Questions)
Standard: PANAS-C Parent (2 Questions)

Branch: New Branch
If
If Please select who will be completing this survey from the list below, you are able to choose more... Child Is Selected

Standard: New Measure Child (1 Question)
Standard: RCADS-25-C child (1 Question)
Standard: S-WEMBWS child (2 Questions)
Standard: PANAS-C Teacher (2 Questions)

Standard: Debrief (1 Question)

Page Break

New Measure Consent

Start of Block: Participant Information

Q1 **Project Title:** The design and validation of a measure of psychological well-being for pupils in mainstream schools

Name of Researcher: Chantelle Francis (chantelle2.francis@northumbria.ac.uk)

Name of Supervisor: Karen McKenzie (k.mckenzie@northumbria.ac.uk)

The purpose of this information sheet is to provide you with sufficient information so that you can then give your informed consent. It is thus very important that you read this document carefully and raise any issues that you do not understand with the investigator.

What is the purpose of the project?
Previous research has outlined that poor psychological well-being is prevalent in schools and that there are various factors associated with this. The following topics have been identified as affecting psychological well-being in research and empirical data: peers, bullying, a whole-school approach, curriculum demands and teacher relationships. To date, no standardised measure has been made available to measure psychological well-being against these constructs. In this study, you will be asked to complete up to three validated measures of psychological well-being along with the new measure that has been created by the researcher.

Why have I been asked to take part and what are the inclusion criteria?

You can take part if you:

Are aged 18 or over AND are the parent of a child in a mainstream primary or secondary school in the United Kingdom

OR

Are aged 18 or over AND are a teacher in a mainstream primary or secondary school in the United Kingdom

Your child can take part if they:

Are aged 8 or over AND attend a mainstream primary or secondary school in the United Kingdom

You should not take part if you teach at or your child attends a private school, sixth-forms/college or special school.

What will I have to do?
If you decide to take part you will be asked to do the following:
Complete a few questions asking for demographic information about you/your child, such as gender, year group, name, teacher, school name, SEN status and mental difficulties status. The questions you answer will vary, depending on whether you are a parent, teacher, or child and you should only answer what is relevant to you.

You will then view up to three measures of psychological well-being (depending upon the age of the child) followed by a new measure that has been created by the researcher.

The survey will take approximately 10 minutes to complete.

If your child/the child you teach has difficulty reading the questions, you can read them out, but please let them choose their own answer.

After completing the questionnaires, you will be presented with a debrief which will explain the purpose of the study, how you can find out about the results and how you can withdraw the data if wished.

Will my participation involve any psychological discomfort or embarrassment?

The study is not designed to cause any distress, however, you can miss out any questions that you don't want to answer and can withdraw at any time.

If you experience any distress following completion of the questionnaires, you can contact the following organisation for support:

Place2Be
175 St. John Street,
Clerkenwell,
London
EC1V 4LW

enquiries@place2be.org.uk
020 7923 5500

Q11 **How will confidentiality be assured?**
Here at Northumbria University we take confidentiality very seriously. Any personally identifying data, such as your child's name and teacher, will be stored separately to the questionnaire data and will not be used in the analysis. The personally identifying information is only required from parents to link the child participant with their teacher. We will ask you to provide a code word should you wish to withdraw your data at a later point.

How will my data be stored and who will have access to the information that I provide?
The information we collect will be securely stored on password protected devices and will only be accessed by the research team. Information will be stored in accordance with University guidelines and the GDPR.

What will happen to the results of the study?
If we publish our findings in an academic journal, we could be obliged to make the dataset available publicly and indefinitely, however please note we will not be able to identify you/your child from the dataset. If it is not used for academic purposes but only for the purposes of the Thesis Research project, then we will destroy the data six months after the completion of the project.

How can I withdraw from the project?
If you wish to withdraw from the study, please contact the researcher (email addresses are provided above) with the title of the study and your unique code word. They will then facilitate the removal of your data from the study. You can withdraw from the study up to one month after completing the study; after this date, this may not be possible as the data may have already been published. As all data is anonymised, your individual data will not be identifiable in any way.

If I require further information who should I contact and how?

If you require any further information please contact the researcher through email (email addresses are posted above).

Who has reviewed this study?
This study has been approved by the University Ethical Approval system (ENTER NUMBER) at Northumbria University.

If you have any concerns or worries concerning this research or if you wish to register a complaint, please direct it to the Department of Psychology Postgraduate Ethics Chair at david.smailes@northumbria.ac.uk.

The data collected in this study will be used for a Postgraduate Psychology Thesis. It may also be published in scientific journals or presented at conferences. Information and data gathered during this research study will only be available to the research team named above, and the Postgraduate Ethics Chair David Smailes. Should the research be presented or published in any form, all data will be anonymous (i.e. your personal information or data will not be identifiable). This anonymous data may be held indefinitely to ensure research integrity.

Any personally identifiable information and data gathered during this research is subject to and will be stored in line with EU General Data Protection Regulation (GDPR) and the UK Data Protection Act (2018). Any personally identifiable information will be destroyed as soon as it is no longer needed (e.g. email addresses used to keep in contact with you will be destroyed as soon as they are no longer required).

Consent forms with personal details will be destroyed within six months of the conclusion of the project. Any IP addresses collected via online survey systems will be deleted as soon as data collection is complete. If personal data has been collected during this study, the legal basis for the study's personal data processing is that the research is being conducted in the public interest, and/or is necessary for scientific and historical research purposes. You have the right to access your data upon request.

Contact the Information Commissioner's Office for further information, and/or complaints about the University's processing of personal data: https://ico.org.uk/. The Data Protection Officer at Northumbria University (the Data Controller) is Duncan James (dp.officer@northumbria.ac.uk)

This study and its protocol have received full ethical approval from the Department of Psychology Ethics Committee in accordance with the School of Health and Life Sciences Ethics Committee. If you require confirmation of this please contact the Chair of this Committee (david.smailes.@northumbria.ac.uk), stating the title of the research project and the name of the researcher.

Please note that Northumbria staff who participate in this study are expected to do so in their own time.

End of Block: Participant Information

Start of Block: Consent

Q2 Consent to Participate

If you would like to take part in this study, please read the statement below and click 'I agree'.

By clicking on "I agree", I indicate that I understand the nature of the study, and what is required from me, my child, and my child's teacher (if appropriate). I understand that after I participate, I will receive a debrief providing me with information about the study and contact details for the researcher.

I understand I am free to withdraw from the study at any time, without having to give a reason for withdrawing. I agree to provide information to the investigator and understand that my contribution will remain confidential.

I agree to the University of Northumbria at Newcastle recording and processing this information about me and my child (if appropriate). I understand that this information will be used only for the purpose(s) set out in the information sheet supplied to me, and my consent is conditional upon the University complying with its duties and obligations under the Data Protection Act 2018 which incorporates General Data Protection Regulations (GDPR). You can find out more about how we use your information here - https://www.northumbria.ac.uk/about-us/leadership-governance/vice-chancellors-office/legal-services-team/gdpr/gdpr---privacy-notices/

Please tick all that apply

- ☐ I am a parent and consent to taking part in this study (1)
- ☐ I am a parent and consent to my child taking part in this study (2)
- ☐ I am a parent and consent to my child's teacher completing this measure on behalf of my child (3)
- ☐ I am a teacher and consent to taking part in this study on behalf of my pupil, who has received parental consent (4)

Skip To: End of Survey If Consent to Participate If you would like to take part in this study, please read the statement b... = I am a teacher and consent to taking part in this study on behalf of my pupil, who has received parental consent

Page Break

Q8 Please indicate whether you would be happy for your child to complete this survey on a second occasion in approximately two weeks:

- ○ I would be happy for my child to take this survey again in approximately two weeks' time (1)
- ○ I would not be happy for my child to take this survey again in approximately two weeks' time (2)

End of Block: Consent

Start of Block: Personal Information

Q14 Please enter your name

_____

ParentCode Please enter a memorable code word below. Avoid any personally identifying information such as your name, location, or date of birth.

_____

Q10 Please note that only parents should complete the following demographic information. Please answer the questions below:

Name of child Please enter your child's name:

_____

childCode Please enter a memorable code word for **your child** below. Avoid any personally identifying information such as your name, location, or date of birth.

_____

School name Please enter the name of your child's school:

_____

Year Group Please enter your child's year group:

_____

Contact details Please enter your email address below, this will be used to send a reminder for the second round of data collection (if applicable). If you have been contacted by your child's school for the purpose of this study, you do not need to complete this and the school will contact you in approximately two weeks time should you wish.

_____

Q9 You will now be taken to a separate survey, on which you will be asked to provide further details regarding your child and complete the measures of psychological well-being.

End of Block: Personal Information

Start of Block: Code

Q28
Due to the logic of the questionnaires, the questionnaires appear more than once. They will only appear once to the relevant participants in practice.

If you are a parent and have provided consent for your child and their teacher to complete this survey then you may exit this survey by closing your browser now.

Display This Question:

If childcode Is Empty

Q26 Please re-enter the code word associated with the child below:

_____

Display This Question:

If parentcode Is Empty

Q29 Please re-enter your own code word below:

_____

End of Block: Code

Start of Block: Type of participant

who Please select who will be completing this survey from the list below, you are able to choose more than one.

- ☐ Child (1)
- ☐ Parent (2)
- ☐ Teacher (3)

*

age Please enter the age of the associated child in digits:

_____

gender Please select the gender of the child:

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary (3)
- ○ Prefer not to say (4)

Q4 You will now be taken to a series of questionnaires. Parents and teachers should help the child to answer where necessary but please allow them to answer on their own. Some of the questionnaires may require more help than others.

End of Block: Type of participant

Start of Block: MHD/SEN status

Display This Question:

If Please select who will be completing this survey from the list below, you are able to choose more... = Parent

Or Please select who will be completing this survey from the list below, you are able to choose more... = Teacher

Q1
Please answer the following questions on behalf of the child you are completing the survey for.

Display This Question:

If Please select who will be completing this survey from the list below, you are able to choose more... = Parent

Or Please select who will be completing this survey from the list below, you are able to choose more... = Teacher

Q2 Please indicate the mental health status of the child (i.e. does the child have mental health difficulties or a diagnosed mental health disorder?)

_____

Display This Question:

If Please select who will be completing this survey from the list below, you are able to choose more... = Parent

Or Please select who will be completing this survey from the list below, you are able to choose more... = Teacher

Q3 Is the child diagnosed with Special Educational Needs? If so, please indicate their diagnosis in the text box below.

- ○ No (1)
- ○ Yes (2) _____

End of Block: MHD/SEN status

Start of Block: New Measure Teacher

NM Teacher Please complete the new measure of psychological well-being below:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I can talk to my friends about my feelings (5)	○	○	○	○	○
My friends help me when I feel sad (26)	○	○	○	○	○
I like being with my friends (7)	○	○	○	○	○
I am bullied by people in my class (8)	○	○	○	○	○
I am liked my people in my class (27)	○	○	○	○	○
I sometimes feel left out (10)	○	○	○	○	○
I feel safe in my school (11)	○	○	○	○	○
I know which staff can help me when I am sad in school (12)	○	○	○	○	○
My school deals with bullies well (13)	○	○	○	○	○
I feel worried before tests (16)	○	○	○	○	○

I worry about my marks after tests (17)	○	○	○	○	○
I worry that I won't do well in tests (28)	○	○	○	○	○
I struggle with my work in class (19)	○	○	○	○	○
I feel like I am behind in my schoolwork (20)	○	○	○	○	○
My teachers understand me (22)	○	○	○	○	○
I can go to teachers for help if I need to (23)	○	○	○	○	○

End of Block: New Measure Teacher

Start of Block: RCADS-P Teacher

Display This Question:

If Please select who will be completing this survey from the list below, you are able to choose more... = Parent

Or Please select who will be completing this survey from the list below, you are able to choose more... = Teacher

RCADS Teacher The following questions are taken from the Revised Children's Anxiety and Depression Scale Parent Version, please answer them as honestly as possible on behalf of the child.

	Never (0)	Sometimes (1)	Often (2)	Always (3)
My child feels sad or empty (1)	○	○	○	○
My child worries when he/she thinks he/she has done poorly at something (2)	○	○	○	○
My child feels afraid of being alone at home (3)	○	○	○	○
Nothing is much fun for my child anymore (4)	○	○	○	○
My child worries that something awful will happen to someone in the family (5)	○	○	○	○
My child is afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds) (6)	○	○	○	○
My child worries what other people think of him/her (7)	○	○	○	○
My child has trouble sleeping (8)	○	○	○	○
My child feels scared to sleep on his/her own (9)	○	○	○	○
My child has problems with his/her appetite (10)	○	○	○	○
My child suddenly becomes dizzy or faint when there is no reason for this (11)	○	○	○	○

My child has to do some things over and over again (like washing hands, cleaning, or putting things in a certain order) (12)	○	○	○	○
My child has no energy for things (13)	○	○	○	○
My child suddenly starts to tremble or shake when there is no reason for this (14)	○	○	○	○
My child cannot think clearly (15)	○	○	○	○
My child feels worthless (16)	○	○	○	○
My child has to think of special thoughts (like numbers or words) to stop bad things from happening (17)	○	○	○	○
My child thinks about death (18)	○	○	○	○
My child feels like he/she doesn't want to move (19)	○	○	○	○
My child worries that he/she will suddenly get a scared feeling when there is nothing to be afraid of (20)	○	○	○	○
My child is tired a lot (21)	○	○	○	○
My child feels afraid that he/she will make a fool of him/herself in front of people (22)	○	○	○	○

My child has to do some things in just the right way to stop bad things from happening (23)	○	○	○	○
My child feels restless (24)	○	○	○	○
My child worries that something bad will happen to him/her (25)	○	○	○	○

End of Block: RCADS-P Teacher

Start of Block: SWEMBWS Teacher

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

SWEMBWS teacher Short Warwick Edinburgh Mental Wellbeing Scale
S (WEMBWS). Please note this measure is not suitable for those under the age of 11.
Below are some statements about feelings and thoughts. Please select the answer that best describes your experience of each over the last 2 weeks. Parents and teachers should answer this on behalf of the child.

	None of the Time (1)	Rarely (2)	Some of the Time (3)	Often (4)	All of the Time (5)
I've been feeling optimistic about the future (1)	○	○	○	○	○
I've been feeling useful (2)	○	○	○	○	○

I've been feeling relaxed (3)	○	○	○	○	○
I've been dealing with problems well (4)	○	○	○	○	○
I've been thinking clearly (5)	○	○	○	○	○
I've been feeling close to other people (6)	○	○	○	○	○
I've been able to make up my own mind about things (7)	○	○	○	○	○

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

Q23 Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS) © NHS Health Scotland, University of Warwick and University of Edinburgh, 2008, all rights reserved.

End of Block: SWEMBWS Teacher

Start of Block: PANAS-C Teacher

PANAS Teacher Feelings and Emotions (PANAS-C)
This scale consists of a number of words that describe different feelings and emotions.
Please indicate how much the feelings have been present over the past two weeks.

	Not much or not at all (1)	A little (2)	Some (3)	Quite a bit (4)	A lot (5)
Joyful (1)	○	○	○	○	○
Cheerful (2)	○	○	○	○	○
Happy (3)	○	○	○	○	○
Lively (4)	○	○	○	○	○
Proud (5)	○	○	○	○	○
Miserable (6)	○	○	○	○	○
Mad (7)	○	○	○	○	○
Afraid (8)	○	○	○	○	○
Scared (9)	○	○	○	○	○
Sad (10)	○	○	○	○	○

Q2 Adapted from Watson, D. & Clark, L.A. (1999). The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form-Revised.

End of Block: PANAS-C Teacher

Start of Block: New Measure Parent

NM parent Please complete the new measure of psychological well-being below:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I can talk to my friends about my feelings (5)	○	○	○	○	○
My friends help me when I feel sad (26)	○	○	○	○	○
I like being with my friends (7)	○	○	○	○	○
I am bullied by people in my class (8)	○	○	○	○	○
I am liked my people in my class (27)	○	○	○	○	○
I sometimes feel left out (10)	○	○	○	○	○
I feel safe in my school (11)	○	○	○	○	○

I know which staff can help me when I am sad in school (12)	○	○	○	○	○
My school deals with bullies well (13)	○	○	○	○	○
I feel worried before tests (16)	○	○	○	○	○
I worry about my marks after tests (17)	○	○	○	○	○
I worry that I won't do well in tests (28)	○	○	○	○	○
I struggle with my work in class (19)	○	○	○	○	○
I feel like I am behind in my schoolwork (20)	○	○	○	○	○
My teachers understand me (22)	○	○	○	○	○
I can go to teachers for help if I need to (23)	○	○	○	○	○

End of Block: New Measure Parent

Start of Block: RCADS-25-P

Display This Question: If Please select who will be completing this survey from the list below, you are able to choose more... = Parent

Or Please select who will be completing this survey from the list below, you are able to choose more... = Teacher

RCADS parent The following questions are taken from the Revised Children's Anxiety and Depression Scale Parent Version, please answer them as honestly as possible on behalf of the child.

	Never (0)	Sometimes (1)	Often (2)	Always (3)
My child feels sad or empty (1)	○	○	○	○
My child worries when he/she thinks he/she has done poorly at something (2)	○	○	○	○
My child feels afraid of being alone at home (3)	○	○	○	○
Nothing is much fun for my child anymore (4)	○	○	○	○
My child worries that something awful will happen to someone in the family (5)	○	○	○	○
My child is afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds) (6)	○	○	○	○
My child worries what other people think of him/her (7)	○	○	○	○

My child has trouble sleeping (8)	○	○	○	○
My child feels scared to sleep on his/her own (9)	○	○	○	○
My child has problems with his/her appetite (10)	○	○	○	○
My child suddenly becomes dizzy or faint when there is no reason for this (11)	○	○	○	○
My child has to do some things over and over again (like washing hands, cleaning, or putting things in a certain order) (12)	○	○	○	○
My child has no energy for things (13)	○	○	○	○
My child suddenly starts to tremble or shake when there is no reason for this (14)	○	○	○	○
My child cannot think clearly (15)	○	○	○	○
My child feels worthless (16)	○	○	○	○
My child has to think of special thoughts (like numbers or words) to stop bad things from happening (17)	○	○	○	○
My child thinks about death (18)	○	○	○	○

My child feels like he/she doesn't want to move (19)	○	○	○	○
My child worries that he/she will suddenly get a scared feeling when there is nothing to be afraid of (20)	○	○	○	○
My child is tired a lot (21)	○	○	○	○
My child feels afraid that he/she will make a fool of him/herself in front of people (22)	○	○	○	○
My child has to do some things in just the right way to stop bad things from happening (23)	○	○	○	○
My child feels restless (24)	○	○	○	○
My child worries that something bad will happen to him/her (25)	○	○	○	○

End of Block: RCADS-25-P

Start of Block: SWEMBWS Parent

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

SWEMBS parent Short Warwick Edinburgh Mental Wellbeing Scale
S (WEMBWS)

Below are some statements about feelings and thoughts.
Please select the answer that best describes your experience of each over the last 2 weeks. Parents and teachers should answer this on behalf of the child.

	None of the Time (1)	Rarely (2)	Some of the Time (3)	Often (4)	All of the Time (5)
I've been feeling optimistic about the future (1)	○	○	○	○	○
I've been feeling useful (2)	○	○	○	○	○
I've been feeling relaxed (3)	○	○	○	○	○
I've been dealing with problems well (4)	○	○	○	○	○
I've been thinking clearly (5)	○	○	○	○	○
I've been feeling close to other people (6)	○	○	○	○	○
I've been able to make up my own mind about things (7)	○	○	○	○	○

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

Q21 Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS) © NHS Health Scotland, University of Warwick and University of Edinburgh, 2008, all rights reserved.

End of Block: SWEMBWS Parent

Start of Block: PANAS-C Parent

PANAS parent Feelings and Emotions (PANAS-C)
This scale consists of a number of words that describe different feelings and emotions.
Please indicate how much the feelings have been present over the past two weeks.

	Not much or not at all (1)	A little (2)	Some (3)	Quite a bit (4)	A lot (5)
Joyful (1)	○	○	○	○	○
Cheerful (2)	○	○	○	○	○
Happy (3)	○	○	○	○	○
Lively (4)	○	○	○	○	○
Proud (5)	○	○	○	○	○
Miserable (6)	○	○	○	○	○

Mad (7)	○	○	○	○	○
Afraid (8)	○	○	○	○	○
Scared (9)	○	○	○	○	○
Sad (10)	○	○	○	○	○

Q25 Adapted from Watson, D. & Clark, L.A. (1999). The PANAS-X: Manual for the Positive and Negative Affect Schedule-Expanded Form-Revised. Copyright 1994 by D. Watson and L. A. Clark; all rights reserved. PANAS-X adapted with permission.

End of Block: PANAS-C Parent

Start of Block: New Measure Child. NM child Please complete the new measure of psychological well-being below:

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I can talk to my friends about my feelings (5)	○	○	○	○	○
My friends help me when I feel sad (26)	○	○	○	○	○
I like being with my friends (7)	○	○	○	○	○

I am bullied by people in my class (8)	○	○	○	○	○
I am liked my people in my class (27)	○	○	○	○	○
I sometimes feel left out (10)	○	○	○	○	○
I feel safe in my school (11)	○	○	○	○	○
I know which staff can help me when I am sad in school (12)	○	○	○	○	○
My school deals with bullies well (13)	○	○	○	○	○
I feel worried before tests (16)	○	○	○	○	○
I worry about my marks after tests (17)	○	○	○	○	○
I worry that I won't do well in tests (28)	○	○	○	○	○
I struggle with my work in class (29)	○	○	○	○	○
I feel like I am behind in my schoolwork (20)	○	○	○	○	○

My teachers understand me (22)	○	○	○	○	○
I can go to teachers for help if I need to (23)	○	○	○	○	○

End of Block: New Measure Child

Start of Block: RCADS-25-C child

Display This Question:

If Please select who will be completing this survey from the list below, you are able to choose more... = Child

X→

RCADS child Please answer the following questions which are taken from the Revised Children's Anxiety and Depression Scale.

	Never (0)	Sometimes (1)	Often (2)	Always (3)
I feel sad or empty (1)	○	○	○	○
I worry when I think I have done poorly at something (2)	○	○	○	○
I would feel afraid of being on my own at home (3)	○	○	○	○
Nothing is much fun anymore (4)	○	○	○	○
I worry that something awful will happen to someone in my family (5)	○	○	○	○
I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds) (6)	○	○	○	○
I worry what other people will think of me (7)	○	○	○	○
I have trouble sleeping (8)	○	○	○	○
I feel scared if I have to sleep on my own (9)	○	○	○	○
I have problems with my appetite (10)	○	○	○	○
I suddenly become dizzy or faint when there is no reason for this (11)	○	○	○	○

I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order) (12)	○	○	○	○
I have no energy for things (13)	○	○	○	○
I suddenly start to tremble or shake when there is no reason or this (14)	○	○	○	○
I cannot think clearly (15)	○	○	○	○
I feel worthless (16)	○	○	○	○
I have to think of special thoughts (like numbers or words) to stop bad things from happening (17)	○	○	○	○
I think about death (18)	○	○	○	○
I feel like I don't want to move (19)	○	○	○	○
I worry that I will suddenly get a scared feeling when there is nothing to be afraid of (20)	○	○	○	○
I am tired a lot (21)	○	○	○	○
I feel afraid that I will make a fool of myself in from of people (22)	○	○	○	○

I have to do some things in just the right way to stop bad things from happening (23)	○	○	○	○
I feel restless (24)	○	○	○	○
I worry that something bad will happen to me (25)	○	○	○	○

End of Block: RCADS-25-C child

Start of Block: S-WEMBWS child

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

Q1 Short Warwick Edinburgh Mental Wellbeing Scale
S (WEMBWS)

Below are some statements about feelings and thoughts.
Please select the answer that best describes your experience of each over the last 2 weeks. Parents and teachers should answer this on behalf of the child.

	None of the Time (1)	Rarely (2)	Some of the Time (3)	Often (4)	All of the Time (5)
I've been feeling optimistic about the future (1)	○	○	○	○	○
I've been feeling useful (2)	○	○	○	○	○
I've been feeling relaxed (3)	○	○	○	○	○
I've been dealing with problems well (4)	○	○	○	○	○
I've been thinking clearly (5)	○	○	○	○	○
I've been feeling close to other people (6)	○	○	○	○	○
I've been able to make up my own mind about things (7)	○	○	○	○	○

Display This Question:

If If Please enter the age of the associated child in digits: Text Response Is Greater Than or Equal to 11

End of Block: S-WEMBWS chi

Start of Block: Debrief

Q1 **Participant Debrief**
Project Title: The design and validation of a measure of psychological well-being for pupils in mainstream schools

Name of Researcher: Chantelle Francis (chantelle2.francis@northumbria.ac.uk)

Name of Supervisor: Karen McKenzie (k.mckenzie@northumbria.ac.uk)

What was the purpose of the project?
This study was a validation of a new measure of psychological well-being. We hope that the results from this survey will allow us to assess the validity and reliability of the measure for future use.

How will I find out about the results?
If you would like to find out the results of this study, please contact the researcher (email addresses posted above). You will then be sent a summary of the results when they have been analysed.

How can I withdraw from the project?
If you wish to withdraw from the study, please contact the researcher (email addresses are provided above) with the title of the study and your unique code word. They will then facilitate the removal of your data from the study. You can withdraw from the study up to one month after completing the study; after this date, you may not be able to as data may have already been published. As all data is anonymised, your individual data will not be identifiable in any way.

If you experience any distress following completion of the questionnaires, you can contact the following organisation for support:

Place2Be
175 St. John Street,
Clerkenwell,
London
EC1V 4LW

enquiries@place2be.org.uk
020 7923 5500

If you have any concerns or worries concerning this research or if you wish to register a complaint, please direct it to the Department of Psychology Ethics Chair at david.smailes@northumbria.ac.uk

The data collected in this study will be used for a Postgraduate Psychology Thesis. It may also be published in scientific journals or presented at conferences. Information and data gathered during this research study will only be available to the research team named above, and the Ethics Chair David Smailes. Should the research be presented or published in any form, all data will be anonymous (i.e. your personal information or data will not be identifiable). This anonymous data may be held indefinitely to ensure research integrity.

Any personally identifiable information and data gathered during this research is subject to and will be stored in line with EU General Data Protection Regulation (GDPR) and the UK Data Protection Act (2018). Any personally identifiable information will be destroyed as soon as it is no longer needed (e.g. email addresses used to keep in contact with you will be destroyed as soon as they are no longer required).

Consent forms with personal details will be destroyed within six months of the conclusion of the project. Any IP addresses collected via online survey systems will be deleted as soon as data

collection is complete. If personal data has been collected during this study, the legal basis for the study's personal data processing is that the research is being conducted in the public interest, and/or is necessary for scientific and historical research purposes. You have the right to access your data upon request.

Contact the Information Commissioner's Office for further information, and/or complaints about the University's processing of personal data: https://ico.org.uk/. The Data Protection Officer at Northumbria University (the Data Controller) is Duncan James (dp.officer@northumbria.ac.uk)

This study and its protocol have received full ethical approval from the Department of Psychology Ethics Committee in accordance with the School of Health and Life Sciences Ethics Committee. If you require confirmation of this, please contact the Chair of this Committee (david.smailes@northumbria.ac.uk) stating the title of the research project and the name of the researcher.

End of Block: Debrief

Appendix 8 – SPSS output

Frequency of SEN and TD pupils

SEN

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NoSEN[12]	128	87.1	87.1	87.1
	SEN	19	12.9	12.9	100.0
	Total	147	100.0	100.0	

Age of TD pupils

Statistics[a]

Age		
N	Valid	128
	Missing	0
Mean		11.38
Std. Deviation		2.206

a. SEN = NoSEN

Gender of TD pupils

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	54	42.2	42.2	42.2
	Female	72	56.3	56.3	98.4
	Prefer not to say	2	1.6	1.6	100.0
	Total	128	100.0	100.0	

a. SEN = NoSEN

[12] NoSEN refers to TD pupils in this context

Frequency and genders of TD pupils with MHD

SEN = NoSEN, MHDdisclosedbyanyppt = MHD[13]

		Age
N	Valid	23
	Missing	0
Mean		12.61
Std. Deviation		2.148

a. SEN = NoSEN, MHDdisclosedbyanyppt = MHD

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	2	8.7	8.7	8.7
	Female	20	87.0	87.0	95.7
	Prefer not to say	1	4.3	4.3	100.0
	Total	23	100.0	100.0	

a. SEN = NoSEN, MHDdisclosedbyanyppt = MHD

Frequency and genders of children with SEN without MHD

SEN = SEN, MHDdisclosedbyanyppt = NoMHD

		Age
N	Valid	10
	Missing	0
Mean		12.00
Std. Deviation		1.700

a. SEN = SEN, MHDdisclosedbyanyppt = NoMHD

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	8	80.0	80.0	80.0
	Female	2	20.0	20.0	100.0
	Total	10	100.0	100.0	

a. SEN = SEN, MHDdisclosedbyanyppt = NoMHD

[13] MHDdisclosedbyanyppt refers to a mental health diagnosis being disclosed by either a pupil, parent or a teacher in respect of one pupil. MHD refers to MHD being present, NoMHD is no MHD being present.

Frequency and genders of children with SEN and MHD

SEN = SEN, MHDdisclosedbyanyppt = MHD

Statistics[a]

		Age	Gender
N	Valid	9	9
	Missing	0	0
Mean		13.67	1.7778
Std. Deviation		2.062	.44096

a. SEN = SEN, MHDdisclosedbyanyppt = MHD

Gender[a]

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	2	22.2	22.2	22.2
	Female	7	77.8	77.8	100.0
	Total	9	100.0	100.0	

a. SEN = SEN, MHDdisclosedbyanyppt = MHD

Reliability: Internal consistency of the pupil responses

Case Processing Summary

		N	%
Cases	Valid	96	65.3
	Excluded[a]	51	34.7
	Total	147	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.792	16

Reliability: Internal consistency of the parent responses

Case Processing Summary

		N	%
Cases	Valid	46	31.3
	Excluded[a]	101	68.7
	Total	147	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.860	16

Reliability: Internal consistency of the teacher responses

Case Processing Summary

		N	%
Cases	Valid	42	28.6
	Excluded[a]	105	71.4
	Total	147	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.858	16

Reliability: Internal consistency of all participant responses

Case Processing Summary

		N	%
Cases	Valid	184	41.7
	Excluded[a]	257	58.3
	Total	441	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	16

Convergent validity of the MHISQ for pupil participants

		NM_PUPIL_TOTAL_TIME1	RCADS_PUPIL_TOTAL
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	-.423**
	Sig. (1-tailed)		<.001
	N	97	95
RCADS_PUPIL_TOTAL	Pearson Correlation	-.423**	1
	Sig. (1-tailed)	<.001	
	N	95	95

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PUPIL_TOTAL_TIME1	SWEMWBS_PUPIL_TOTAL
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	.568**
	Sig. (1-tailed)		<.001
	N	97	65
SWEMWBS_PUPIL_TOTAL	Pearson Correlation	.568**	1
	Sig. (1-tailed)	<.001	
	N	65	65

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PUPIL_TOTAL_TIME1	NA_PUPIL_TOTAL
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	-.343**
	Sig. (1-tailed)		<.001
	N	97	93
NA_PUPIL_TOTAL	Pearson Correlation	-.343**	1
	Sig. (1-tailed)	<.001	
	N	93	93

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PUPIL_TOTAL_TIME1	PA_PUPIL_TOTAL
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	.483**
	Sig. (1-tailed)		<.001
	N	97	93
PA_PUPIL_TOTAL	Pearson Correlation	.483**	1
	Sig. (1-tailed)	<.001	
	N	93	93

Convergent validity of the MHISQ for parent participants

		NM_PARENT_TOTAL_TIME1	RCADS_PARENT_TOTAL
NM_PARENT_TOTAL_TIME1	Pearson Correlation	1	-.403**
	Sig. (1-tailed)		.003
	N	45	45
RCADS_PARENT_TOTAL	Pearson Correlation	-.403**	1
	Sig. (1-tailed)	.003	
	N	45	45

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PARENT_TOTAL_TIME1	SWEMWBS_PARENT_TOTAL
NM_PARENT_TOTAL_TIME1	Pearson Correlation	1	.577**
	Sig. (1-tailed)		<.001
	N	45	37
SWEMWBS_PARENT_TOTAL	Pearson Correlation	.577**	1
	Sig. (1-tailed)	<.001	
	N	37	37

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PARENT_TOTAL_TIME1	NA_PARENT_TOTAL
NM_PARENT_TOTAL_TIME1	Pearson Correlation	1	-.407**
	Sig. (1-tailed)		.003
	N	45	45
NA_PARENT_TOTAL	Pearson Correlation	-.407**	1
	Sig. (1-tailed)	.003	
	N	45	45

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_PARENT_TOTAL_TIME1	PA_PARENT_TOTAL
NM_PARENT_TOTAL_TIME1	Pearson Correlation	1	.450**
	Sig. (1-tailed)		<.001
	N	45	45
PA_PARENT_TOTAL	Pearson Correlation	.450**	1
	Sig. (1-tailed)	<.001	
	N	45	45

**. Correlation is significant at the 0.01 level (1-tailed).

Convergent validity of the MHISQ for teacher participants

		NM_TEACHER_TOTAL_TIME1	RCADS_TEACHER_TOTAL
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	1	-.324*
	Sig. (1-tailed)		.019
	N	42	41
RCADS_TEACHER_TOTAL	Pearson Correlation	-.324*	1
	Sig. (1-tailed)	.019	
	N	41	41

*. Correlation is significant at the 0.05 level (1-tailed).

		NM_TEACHER_TOTAL_TIME1	SWEMWBS_TEACHER_TOTAL
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	1	.605**
	Sig. (1-tailed)		<.001
	N	42	27
SWEMWBS_TEACHER_TOTAL	Pearson Correlation	.605**	1
	Sig. (1-tailed)	<.001	
	N	27	27

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_TEACHER_TOTAL_TIME1	NA_TEACHER_TOTAL
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	1	-.447**
	Sig. (1-tailed)		.002
	N	42	41
NA_TEACHER_TOTAL	Pearson Correlation	-.447**	1
	Sig. (1-tailed)	.002	
	N	41	41

**. Correlation is significant at the 0.01 level (1-tailed).

		NM_TEACHER_TOTAL_TIME1	PA_TEACHER_TOTAL
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	1	.414**
	Sig. (1-tailed)		.004
	N	42	41
PA_TEACHER_TOTAL	Pearson Correlation	.414**	1
	Sig. (1-tailed)	.004	
	N	41	41

**. Correlation is significant at the 0.01 level (1-tailed).

Test retest reliability of the MHISQ for pupil participants

		NM_PUPIL_TOTAL_TIME1	NM_PUPIL_TOTAL_TIME2
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	.410**
	Sig. (1-tailed)		.004
	N	97	41
NM_PUPIL_TOTAL_TIME2	Pearson Correlation	.410**	1
	Sig. (1-tailed)	.004	
	N	41	41

**. Correlation is significant at the 0.01 level (1-tailed).

Test retest reliability of the MHISQ for parent participants

		NM_PARENT_TOTAL_TIME1	NM_PARENT_TOTAL_TIME2
NM_PARENT_TOTAL_TIME1	Pearson Correlation	1	.938**
	Sig. (1-tailed)		<.001
	N	45	8
NM_PARENT_TOTAL_TIME2	Pearson Correlation	.938**	1
	Sig. (1-tailed)	<.001	
	N	8	8

**. Correlation is significant at the 0.01 level (1-tailed).

Test retest reliability of the MHISQ for teacher participants

		NM_TEACHER_TOTAL_TIME1	NM_TEACHER_TOTAL_TIME2
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	1	.613**
	Sig. (1-tailed)		.003
	N	42	18
NM_TEACHER_TOTAL_TIME2	Pearson Correlation	.613**	1
	Sig. (1-tailed)	.003	
	N	18	18

**. Correlation is significant at the 0.01 level (1-tailed).

Test retest reliability of the MHISQ for all participants

		NMTime1	NMTime2
NMTime1	Pearson Correlation	1	.589**
	Sig. (1-tailed)		<.001
	N	184	67
NMTime2	Pearson Correlation	.589**	1
	Sig. (1-tailed)	<.001	
	N	67	67

**. Correlation is significant at the 0.01 level (1-tailed).

Inter rater reliability of the MHISQ for pupil, parent and teacher participants

		NM_PUPIL_TOTAL_TIME1	NM_PARENT_TOTAL_TIME1	NM_TEACHER_TOTAL_TIME1
NM_PUPIL_TOTAL_TIME1	Pearson Correlation	1	.276	.457*
	Sig. (1-tailed)		.160	.028
	N	97	15	18
NM_PARENT_TOTAL_TIME1	Pearson Correlation	.276	1	.957**
	Sig. (1-tailed)	.160		.005
	N	15	45	5
NM_TEACHER_TOTAL_TIME1	Pearson Correlation	.457*	.957**	1
	Sig. (1-tailed)	.028	.005	
	N	18	5	42

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

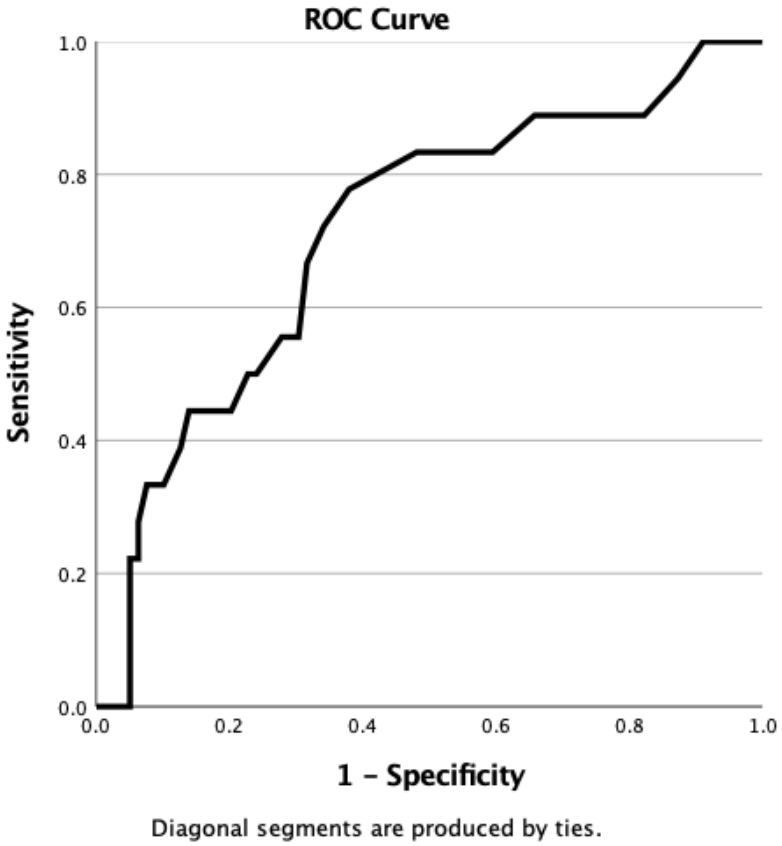
ROC Analysis of the MHISQ for pupil participants

Case Processing Summary

CombinedMHStatus	Valid N (listwise)
Positive[a]	18
Negative	79
Missing	50

Smaller values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is MHD.



Area Under the Curve

Test Result Variable(s):
NM_PUPIL_TOTAL_TIME1

Area
.713

Coordinates of the Curve

Test Result Variable(s): NM_PUPIL_TOTAL_TIME1

Positive if Less Than or Equal To[a]	Sensitivity	1 - Specificity
30.0000	.000	.000
32.5000	.000	.013
34.5000	.000	.025
36.5000	.000	.038
38.5000	.000	.051
40.0000	.056	.051
41.5000	.222	.051
42.5000	.222	.063
43.5000	.278	.063
44.5000	.333	.076
45.5000	.333	.101
46.5000	.389	.127
47.5000	.444	.139
49.0000	.444	.203
50.5000	.500	.228
51.5000	.500	.241
52.5000	.556	.278
53.5000	.556	.304
54.5000	.667	.316
55.5000	.722	.342
56.5000	.778	.380
57.5000	.833	.481
58.5000	.833	.519
59.5000	.833	.595
60.5000	.889	.658
61.5000	.889	.759
62.5000	.889	.785
64.0000	.889	.823
65.5000	.944	.873
67.5000	1.000	.911
70.0000	1.000	.937
71.5000	1.000	.949
73.5000	1.000	.962
75.5000	1.000	.987
77.0000	1.000	1.000

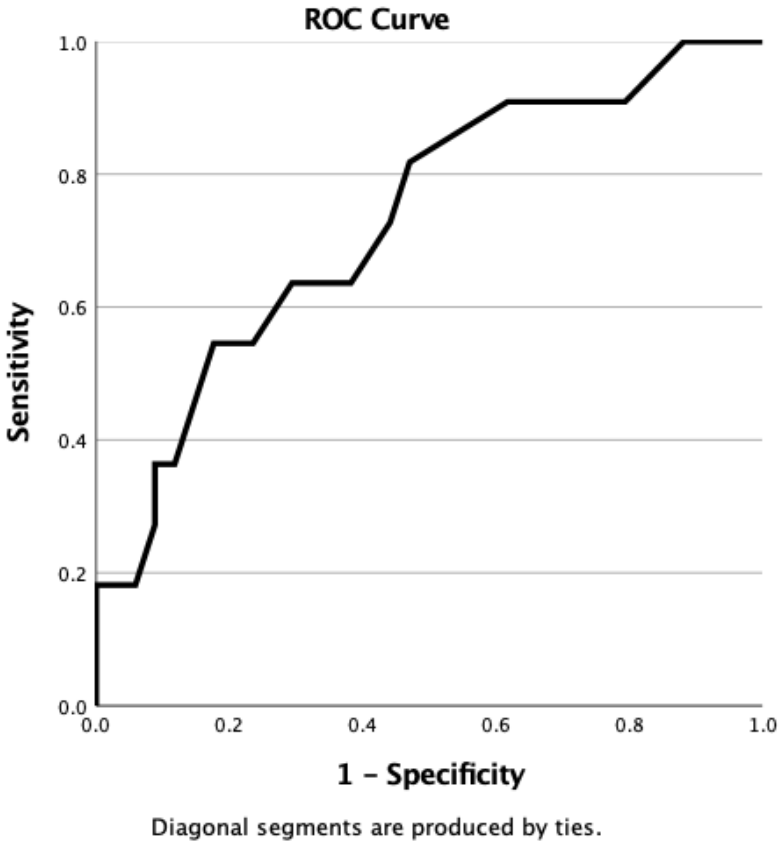
ROC Analysis of the MHISQ for parent participants

Case Processing Summary

CombinedMHStatus	Valid N (listwise)
Positive[a]	11
Negative	34
Missing	102

Smaller values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is MHD.



Area Under the Curve

Test Result Variable(s): NM_PARENT_TOTAL_TIME1

Area
.730

Coordinates of the Curve

Test Result Variable(s): NM_PARENT_TOTAL_TIME1

Positive if Less Than or Equal To[a]	Sensitivity	1 - Specificity
27.0000	.000	.000
30.0000	.091	.000
32.5000	.182	.000
34.5000	.182	.029
37.0000	.182	.059
39.5000	.273	.088
41.5000	.364	.088
42.5000	.364	.118
43.5000	.455	.147
44.5000	.545	.176
46.0000	.545	.206
47.5000	.545	.235
49.0000	.636	.294
51.0000	.636	.324
52.5000	.636	.382
53.5000	.727	.441
54.5000	.818	.471
55.5000	.909	.618
56.5000	.909	.676
57.5000	.909	.706
58.5000	.909	.735
59.5000	.909	.765
60.5000	.909	.794
61.5000	1.000	.882
62.5000	1.000	.912
65.0000	1.000	.941
70.0000	1.000	.971
74.0000	1.000	1.000

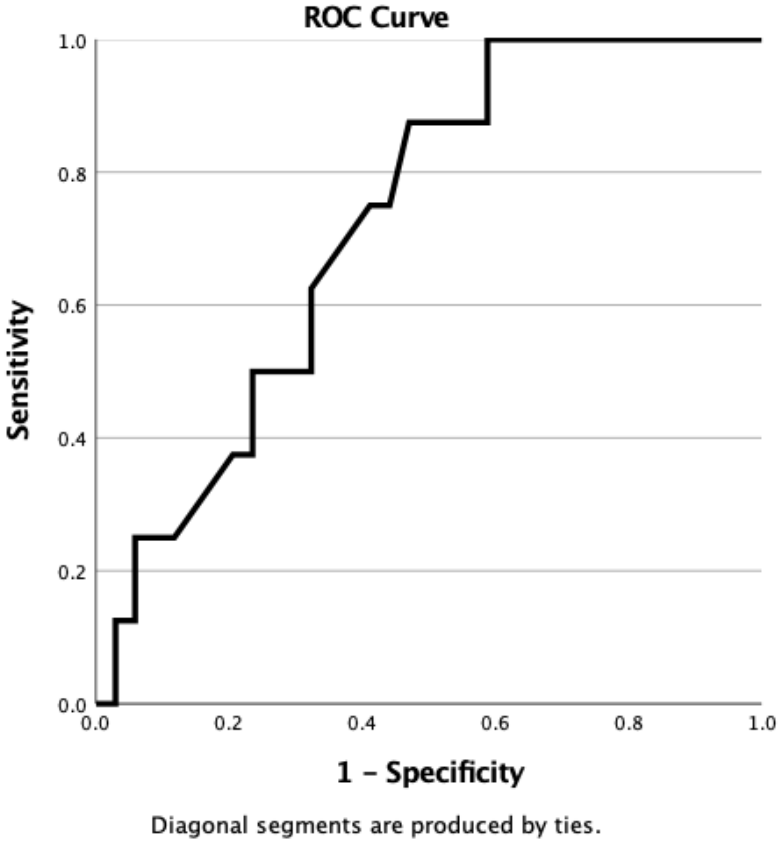
ROC Analysis of the MHISQ for teacher participants

Case Processing Summary

CombinedMHStatus	Valid N (listwise)
Positive[a]	8
Negative	34
Missing	105

Smaller values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is MHD.



Area Under the Curve

Test Result Variable(s): NM_TEACHER_TOTAL_TIME1

Area
.722

Coordinates of the Curve

Test Result Variable(s):

NM_TEACHER_TOTAL_TIME1

Positive if Less Than or Equal To[a]	Sensitivity	1 - Specificity
40.0000	.000	.000
41.5000	.000	.029
44.5000	.125	.029
47.5000	.125	.059
49.0000	.250	.059
50.5000	.250	.088
51.5000	.250	.118
52.5000	.375	.206
53.5000	.375	.235
54.5000	.500	.235
55.5000	.500	.324
56.5000	.625	.324
58.0000	.750	.412
59.5000	.750	.441
60.5000	.875	.471
61.5000	.875	.529
62.5000	.875	.588
63.5000	1.000	.588
65.0000	1.000	.647
66.5000	1.000	.706
68.0000	1.000	.735
69.5000	1.000	.794
70.5000	1.000	.853
72.0000	1.000	.912
74.0000	1.000	.941
77.5000	1.000	.971
81.0000	1.000	1.000