

**A Whole-School Community Approach to Mindfulness
in a Primary School Setting**

An exploratory, mixed-methods, multiphase case study

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Thesis presented for the award of

PhD

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December 2025

Declaration

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Table of Contents

Chapter 1: Introduction	1
1.1 Aims of this Research Study.....	1
1.2 Rationale	2
1.3 Research Design.....	9
1.4 Research Question/s	9
1.5 Thesis Layout.....	10
Chapter 2: Literature Review	11
Part 1: Contextual Background	11
2.1 Defining Mindfulness	11
2.2 From Spiritual Traditions to a Secular Practice	13
2.3 An Operational Definition of Mindfulness	14
2.4 Conclusion Part 1	15
Part 2: Critical Analysis of Research	16
2.5 Stage 1: Search.....	16
2.6 Stage 2: Appraisal	18
2.7 Stage 3: Synthesis	20
2.8 Stage 4: Analysis.....	43
Chapter 3: Methodology.....	55
3.1 Research Paradigm/Worldviews.....	55
3.2 Exploring Philosophical Assumptions	59
3.3 Mixed-Methods Research (MMR) Methodology.....	62
3.4 Methodological Review of the Literature	67
3.5 Theoretical lens(es).....	68
3.6 Research Problem Statement.....	69
3.7 Research Purpose Statement.....	70
3.8 Research Question/s	70
3.9 Research Approach.....	71
3.10 Research Design and Methods	77
3.11 Data Collection	82
3.12 Data Weighting.....	82
3.13 Data Analysis	83
3.14 Triangulation and Integration	84
3.15 Research Validity	85
3.16 Reliability.....	87

3.17 Ethical Considerations	88
3.18 Ethical Issues Relating to Trauma Sensitive Mindfulness Practice (TSM).....	91
3.19 Impact of COVID-19 on the Research Project	94
3.20 Summary	94
Chapter 4: Findings from Qualitative Data	96
4.1 Theme 1: Children's Foundational Understanding of Mindfulness	97
4.2 Theme 2: Translating Understanding into Practice	114
4.3 Theme 3: Mindfulness as a Mechanism for Self-Regulation	137
4.4 Theme 4: Development of Respectful Communication	162
4.5 Theme 5: Children's Enjoyment of Mindfulness and Intentions for Continued Practice	168
4.6 Theme 6: Post-Course Reflections of Adult Participants.....	188
Conclusion	195
Chapter 5: Findings from Quantitative Data	196
5.1 Child and Adolescent Mindfulness Measure (CAMM)	196
5.2 CAMM Statistical Analysis Tests:	197
5.3 Statistical Analysis Test 1:	198
5.4 Statistical Analysis Test 2:	201
5.5 Statistical Analysis Test 3:	205
5.6 Statistical Analysis Test 4	209
5.7 Statistical Analysis Test 5.....	215
5.8 Item Analysis Test 6	218
5.9 Integration	221
Chapter 6: Discussion.....	224
6.1 Associated Outcomes for Participating Children	224
6.2 Children Practising Mindfulness Beyond the Classroom.....	226
6.3 The Potential of Mindfulness to Support Self-Regulation in Children	229
6.4 Contribution of this Study to Research Gaps in the Field.....	232
6.5 Impact of the Mindfulness Course on Quantitative Measures	233
6.6 Limitations	235
6.7 Recommendations for Future Research	236
6.8 Conclusions.....	237
References	239
Appendices	1

Acknowledgements

I would like to express my deepest gratitude to my supervisor, Dr. Catherine Maunsell.

Without her unwavering belief in this study, her steady advice, support, and extraordinary kindness, this thesis would never have come to fruition. She showed me how to “eat the elephant one bite at a time” when the going got tough, and I am especially grateful for the way she always went above and beyond in her guidance and care.

My sincere thanks go to the school principal and staff for facilitating this research and for their endless support during the two years of the project. I am also deeply grateful to the children in the school, whose enthusiasm, honesty, and openness in class discussions brought this work to life. I am certain that I learned far more from them than they ever did from me.

I also owe a profound debt of gratitude to my family and friends, for their constant encouragement throughout this marathon journey, and especially for their kindness, patience and support in the past weeks. Special thanks to those who gave so generously of their time to proofread and share words of wisdom in the final stages. I will always cherish the support and kindness I have received along the way.

List of Tables

	Page
Table 1	Age-Ranges and Research Designs of Studies Included in Meta-Analyses and Systematic Reviews 22
Table 2	Overview of Implementation Methods of Mindfulness-Based Initiatives (MBIs) in Qualitative Research Studies 25
Table 3	Overview of MBI Research Designs and Implementation Methods in Mixed-Methods Studies 28
Table 4	Implementation Overview of Multiphase, Mixed-Methods Phases 66
Table 5	Rationale for a Case Study Approach 74
Table 6	Exit Interview Responses to the Question: <i>Did you enjoy the mindfulness course?</i> 169
Table 7	Exit Interview Responses to the Question: <i>Will you continue with mindfulness practice on your own?</i> 170
Table 8	Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course for 3 rd to 6 th classes 198
Table 9	Paired Samples <i>t</i> -Test: Mean Differences of CAMM Scores Post-Course and Pre-Course for 3 rd to 6 th classes 198
Table 10	Paired Samples Correlations of CAMM Scores Post-Course and Pre-Course for 3 rd to 6 th classes 199
Table 11	Paired Samples Effect Size of CAMM Scores Post Course and Pre-Course for 3 rd to 6 th classes 200
Table 12	Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course for Boys and Girls 201
Table 13	Paired Samples <i>t</i> -Test: Mean Comparison of CAMM Scores for Boys and Girls 202
Table 14	Paired Samples Correlations of CAMM Scores Post-Course and Pre-Course for Boys and Girls 203
Table 15	Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course for Class Levels 206
Table 16	Paired Samples <i>t</i> -Test: Mean Comparison of CAMM Scores Post-Course and Pre-Course for each Class Level 207
Table 17	Paired Samples Correlations of CAMM Scores Post-Course and Pre-Course for each Class Level 208

Table 18	Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course Stratified by Class Level and Gender	210
Table 19	Paired Samples <i>t</i> -Test: Mean Comparison of CAMM Post-Course and Pre-Course for Individual Class Levels Stratified by Gender	212
Table 20	Paired Samples Correlations 3 rd to 6 th classes	213
Table 21	Independent Samples <i>t</i> -Test: Comparison of CAMM Scores Post-Course and Pre-Course for Subset of Students whose Parents Attended a Mindfulness Course and Students whose Parents Did Not Attend a Mindfulness Course	215
Table 22	Independent Samples <i>t</i> -Test: Score Difference for Subset of Students whose Parents Attended a Mindfulness Course Compared to Whole Group..	216
Table 23	Independent Samples Effect Size: Subset compared to Whole Group.....	217

List of Tables in Appendices

Appendix B: pp. 5-23

Table B1	Research Review: The Effects of Mindfulness-Based Interventions on Cognition and Mental Health in Children and Adolescents – A Meta-Analysis of Randomized Controlled Trials (Dunning et al., 2019)
Table B2	Exploring the Use and Delivery of School-Based Mindfulness Programmes for Young Children (Holt and Atkinson, 2022).
Table B3	Mindfulness-Based Interventions for Preadolescent Children: A Comprehensive Meta-Analysis (Kander et al., 2024)
Table B4	A Systematic Review of Mindfulness-Based School Interventions with Early Adolescents (McKeering and Hwang, 2019)
Table B5	The Effectiveness of School-Based Mindfulness and Cognitive Behavioural Programmes to Improve Emotional Regulation in 7-12-Year-Olds: A Systematic Review and Meta-Analysis (Pickerell et al., 2023)
Table B6	MYRIAD Cluster Randomised Controlled Trial: (Kuyken et al., 2022)
Table B7	Listen to the Children: Elementary School Students' Perspectives on a Mindfulness Intervention: (D'Alessandro et al., 2022)
Table B8	A Qualitative Exploration of Primary School Students' Experience and Utilisation of Mindfulness (Bannirchelvam et al., 2017)
Table B9	The Implementation of Mindfulness in Early Childhood: Diversity in the Uses and Functions of Mindfulness and What This May Mean for Children's Wellbeing (Duff, 2024)
Table B10	Exploring the Implementation of Mindfulness Approaches in an Early Years Setting (Holt et al., 2022)
Table B11	Exploring Experiences of Children in Applying a School-Based Mindfulness Programme to their Lives (Hutchinson et al., 2018)
Table B12	"You Feel a Lot of Different Emotions:" Examining a Mindfulness-Based Group for Elementary School Students (Kempf et al., 2024)
Table B13	Primary Teachers' Perceptions of Mindfulness Practices with Young Children (Piotrowski et al., 2017)
Table B14	Perceptions and Traits of 4th-graders in a School-Based Mindfulness Intervention (Keller et al., 2017)
Table B15	Cultivating Mindfulness with Third Grade Students via Classroom-Based Interventions (Kielty et al., 2017)

Table B16 Preliminary Investigation of Whole-School Mindfulness in Education Programs and Children’s Mindfulness-Based Coping Strategies: (Sheinman et al., 2018)

Table B17 Implementation of a Whole-School Mindfulness Curriculum in an Urban Elementary School: Tier 1 through Tier 3 (Ventura et al., 2023)

List of Figures

	Page
Figure 1 Elements of Major Philosophical Worldviews (Creswell, 2009, p.6)	56
Figure 2 Interconnection of Worldviews, Design and Research Methods (Creswell, 2009, p.5)	57
Figure 3 Quantitative, Mixed and Qualitative Methods (Creswell, 2009, p.17)	64
Figure 4 Continuum of Data Weighting (Johnson et al., 2007, p.124)	83
Figure 5 Being Present	98
Figure 6 Mindful versus Mind Full (1)	99
Figure 7 Mindful versus Mind Full (2)	100
Figure 8 Noticing	101
Figure 9 Concentration	103
Figure 10 3 Stages to Calm	105
Figure 11 Mindful Awareness in Nature	114
Figure 12 Teddy Breathing	121
Figure 13 Petal Breathing	122
Figure 14 Stop Drop and Breathe	123
Figure 15 Mindful Breathing on the Rugby Bus	126
Figure 16 Mindful Listening to Rain Drops to Aid Sleep	127
Figure 17 Breathing with my Mam	132
Figure 18 Mindful Listening with Dad	134
Figure 19 Mindful Ball Game with Friends	135
Figure 20 Explaining Flower Breathing to My Friend	136
Figure 21 Identifying Internal Weather	138
Figure 22 Stop Drop and Breathe	142
Figure 23 Finding Calm in the Face of Terror	146

Figure 24	Calming Bottles	148
Figure 25	Managing Worries	151
Figure 26	Worry Boxes	152
Figure 27	Impulse Control	154
Figure 28	Emotion Regulation on the Rugby Pitch	155
Figure 29	Hot Cross Bun	155
Figure 30	Respond rather than React	160
Figure 31	Saying Sorry	167
Figure 32	Scatter Plot Graph Illustrating Correlation of CAMM Scores Pre-Course and Post-Course for the Collective Group of Children in 3 rd to 6 th classes	199
Figure 33	Bar Graph: Mean CAMM Scores by Gender and Time Point for 3 rd to 6 th classes	202
Figure 34	Scatter Plot Correlation of CAMM Scores Pre-Course Plotted Against CAMM Scores Post-Course by Gender for 3 rd to 6 th classes	204
Figure 35	Bar Graph Illustrating Mean CAMM Scores Pre-Course and Post-Course for Each Class Level	206
Figure 36	Bar Graph Comparing CAMM Scores Pre-Course and Post-Course for Students whose Parents Attended a Mindfulness Course and Students whose Parents Did Not Attend a Course.....	216
Figure 37	Positive Change in Response Patterns based on Individual Questions for 3 rd to 6 th classes.....	218
Figure 38	Negative Change in Response Patterns based on Individual Questions for 3 rd to 6 th classes	219
Figure 39	No Change in Response Patterns based on Individual Questions for 3 rd to 6 th classes	220

Abstract

A Whole-School Community Approach to Mindfulness in a Primary School Setting: An exploratory, mixed-methods, multiphase case study

Mary Glynn

This research study explores the implementation of mindfulness as a whole-school community intervention in a large, co-educational, Irish primary school. Conducted over two years and using evidence-based programmes developed for mainstream use with children, 8 or 10-week secular mindfulness programmes were delivered in every classroom, to 540 children, as part of the school's Social Personal and Health Education (SPHE) curriculum. To foster a community approach, mindfulness programmes for adults were delivered to a sample of parents and school staff, outside of school hours. Research design employed a qualitative-dominant, exploratory, multiphase, mixed methods, case-study approach. Qualitative data were collected through children's worksheets and drawings; recorded group exit discussions; written exit interviews; researcher's field notes and analysed according to Braun & Clark (2022) framework for thematic analysis. Quantitative data were obtained from children in 3rd to 6th classes through the Child and Adolescent Mindfulness Measure (CAMM; Greco et al., 2011) and statistically analysed. Findings from qualitative data demonstrated children's foundational understanding of mindfulness; their ability to translate understanding into practice; the role of mindfulness as a mechanism for self-regulation; the development of respectful communication and the degree to which children enjoyed mindfulness, linked to their intentions to engage with practice following course completion. Key discussion on the broader implications of a whole-school mindfulness programme includes its influence on children's emotional resilience and the essential role of foundational understanding towards meaningful practice beyond the classroom. The impact of a whole-school community approach to mindfulness is discussed with an emphasis on the inclusion of all stakeholders, the need for comprehensive teacher education and structured implementation frameworks. Methodological considerations including the generalisability of findings and the reliability of children self-reporting are also discussed. Recommendations emphasise the need for further qualitative research particularly in relation to whole-school implementation of mindfulness.

Chapter 1: Introduction

In contemporary society, children's and young people's mental health and wellbeing are shaped by a myriad of factors from the individual through to the systemic. One such factor which has come under the spotlight in recent years is the proliferation of smart mobile devices, social media platforms, and instant electronic communication. The potential information overload which ensues, with its endless distractions, has led to a society, where people, including children and young people, often struggle to focus on what is occurring in the present moment.

Mindfulness, a state of awareness of the present moment, has the potential to provide an antidote to attention fragmentation and its associated challenges (Black et al., 2015; Brown et al., 2003; Davidson et al., 2003; Flook et al., 2010; Greenland, 2010; Kabat-Zinn, 2003, 2013; Siegal, 2011). The practice of mindfulness trains us to "be here now" and respond skilfully to whatever is happening physically, mentally, or emotionally in the present moment.

This empirical research case study adopts a qualitative-dominant, mixed-methods, multiphase design to explore the implementation of mindfulness in a large, co-educational primary school in Ireland, through a whole-school community approach. This chapter introduces the research study by initially outlining its aims. A rationale for conducting the study stems from the increase in mental health issues in children and young people and the potential of mindfulness-based initiatives (MBIs) in education to support wellbeing. A rationale is also presented from the researcher's personal perspective, shaped by a lifelong meditation practice. A brief overview of the research design is provided, followed by a statement of the research question/s. The chapter concludes with an overview of the thesis layout.

1.1 Aims of this Research Study

The fundamental aim of this case study is to explore the outcomes for participating children, of a whole-school community approach to mindfulness implementation in a large co-educational primary school in an Irish educational context.

An additional aim is to make a significant contribution to the evidence base of MBIs in educational settings by addressing research gaps in the field, as identified from a body of existing literature reviewed in Chapter 2. Across studies reviewed, there was a consistent call for an expansion of qualitative research methods (Bannirchelvam et al., 2017; D'Alessandro et al., 2022; Duff, 2024; Holt et al., 2022; Hutchinson et al., 2018;

Kempf et al., 2024; Pickerell et al., 2023); further research on implementation of MBIs at whole-school level (D'Alessandro et al., 2022; Duff, 2024; Hutchinson et al., 2018; Kempf et al., 2024; Sheinman et al., 2018; Ventura et al., 2023); and the targeting of specific populations to strengthen evidence of developmental specificity and age-related effects (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). Aligned with these gaps in the current field, this study adopts a qualitative-dominant, mixed-methods approach, with a variety of data collection methods, capturing the opinions and first-hand experiences of participants. Using evaluated, age-appropriate mindfulness programmes, the study targets a specific population of primary school children, thereby making findings applicable to this age-range. Studies that called for more research on whole-school MBI implementation stressed the importance of expanding the intervention beyond the classroom and integrating it into children's lives at home (D'Alessandro et al., 2022; Duff, 2024; Hutchinson et al., 2018; Kempf et al., 2024; Sheinman et al., 2018; Ventura et al., 2023). To support this expansion, a whole-school community approach was adopted, inclusive of children, school staff and a sample of parents, promoting a shared language of mindfulness and a shared understanding of practice within a community setting. These approaches are further examined in Chapter 6: Discussion.

A final aim is for the study to contribute to educational policy at management level. At both global and national levels, mindfulness research conducted in schools to date has mainly worked with children in isolation from their families and community, and the findings of many studies are based on small samples. Furthermore, many MBIs apply disconnected mindfulness techniques in classroom settings without the employment of a structured, age-appropriate protocol. This study breaks new ground by pioneering a multi-pronged, whole-school community approach to implementing a mindfulness intervention in a large Irish primary school, with 540 children participating in an 8- or 10-week manualised, evaluated, age-appropriate mindfulness programme, delivered in individual classrooms over a 2-year period. Additionally, after-school mindfulness programmes and drop-in sessions were offered to school staff and a sample of parents. It is hoped that the findings of this study will inform practical strategies for educators and policymakers towards implementing mindfulness at whole-school community levels, with a view to supporting children and young people to live happy, well-balanced lives.

1.2 Rationale

The rationale underpinning this research study is grounded in the nexus between mental health issues in children and young people, the emerging evidence base of the

potential of mindfulness programmes in education to support children's wellbeing, and the crucial role of a supportive community within a whole-school approach. The rationale is presented under three headings: Stress and Mental Health Issues among Children and Young People; The Move towards Mindfulness-Based Interventions in Education; and Mindfulness as a Whole-School Approach. The section concludes with a personal rationale from the perspective of the researcher.

1.2.1 Stress and Mental Health Issues among Children and Young People

Young people's lives are becoming increasingly stressful. They are challenged by an "array of social challenges, psychological stressors, including time pressures, high attentional demands ... and an intense media barrage" (Black et al., 2015, p 367). They are under continuous online micro surveillance where their self-esteem is often dependent on the number of 'likes' on their last social media image. They are pushed to perform and succeed in a materialistic society. Others live in extremely challenging home environments and life circumstances.

This current rise in mental health difficulties among children and adolescents has not come without warning. Fifteen years ago, Mendelson et al. (2010) reported that the number of children and adolescents presenting with stress and anxiety had reached unprecedented levels. Dr Amy Saltzman, director of the Association for Mindfulness in Education in the United States (US) warned us that:

Regardless of race, education, or socioeconomic status, an alarming number of children and adolescents are being diagnosed with ADHD, depression, anxiety, obesity, eating disorders, and addictions, and engaging in cutting and other self-destructive behaviors, including suicide. Cruelty, bullying, and violence are on the rise. No one is immune. (Saltzman, 2014; p 6)

In 2013, the World Health Organisation (WHO), reported that 10% to 20% of children and adolescents worldwide were experiencing mental disorders with neuropsychiatric conditions being the leading cause of disability in young people in all regions. The report stressed that if untreated, these conditions would severely influence children's development, their educational attainments, and their potential to live productive lives (World Health Organisation, 2013). However, despite this warning of a need for action, initiatives in health and education programmes to date have fallen short in their efforts. One decade on, a systematic analysis for the Global Burden of Disease shows a continuing rise in mental disorders in children and adolescents from 1990 to 2019 (Piao et al., 2022). The latest Organisation for Economic Co-operation and Development (OECD) report confirms this continuing trend in its statement that the mental wellbeing of children and young people "... is poor and declining. Between 2018 and 2022, the rate of multiple

health complaints in adolescents increased, especially amongst girls, and the prevalence of anxiety and depression amongst under 20-year-olds increased by about 20%. Alarming, suicide is the second leading cause of death among young people aged 15-29 in EU countries” (OECD, 2025, p. 7).

While these statistics highlight the deteriorating state of youth mental health, they also point to a deeper challenge: how do we prepare children and young people for life in a rapidly changing world, marked with growing uncertainty? According to scientist, writer, and world-renowned mindfulness expert Jon Kabat-Zinn, we do not know what kind of knowledge these young people will need as they face a future of jobs that do not yet exist. However, we do know that they will need to “pay attention, focus, concentrate, listen, learn, and be wise in relationship with themselves – including their thoughts and emotions - and with others” (Kabat-Zinn in Snell, 2013, p. xi). He acknowledges that current school programmes do little to teach children how to focus and concentrate. Adults tell them time and again to pay attention, but no one shows them how.

Saltzman (2014) echoes this viewpoint in her assertion that we must “immunize our youth against the stresses of modern life and the related conditions and give them skills that will benefit them throughout their lives, by teaching them how to focus their attention, to self-regulate and become less reactive, to learn kindness and compassion for themselves and others so that they may live more joyful, engaging and fulfilling lives” (p. 6). She suggests that mindfulness school-based interventions have the potential to enrich those very qualities in children and young people within 21st century classrooms.

1.2.2 The Move towards Mindfulness-Based Interventions in Education

Within medical research, mindfulness has moved from the margins to the mainstream. It is now recommended as a treatment for recurrent depression and widely used in hospitals throughout the world in the areas of both physical and mental healthcare (Segal, 2002; Shapiro and Carlson, 2009). Despite the growth in stress-related illnesses in youth, school curricula are only beginning to address the affective aspect of education in Social, Personal and Health Education (SPHE) and wellbeing programmes, and there is still a neglect of development in this area (Hyland, 2011). The *My Resilience in Adolescence* (MYRIAD) trial was predicated on the premise that “skills in attention and social-emotional-behavioural self-regulation underpin mental health and wellbeing across the full spectrum of wellbeing. As such, we suggest the need for a training method that focuses on teaching these skills, instead of focusing on reducing pathology-specific patterns of negative thinking and unhelpful behaviour” (Kuyken et al., 2022, p. 100).

In the foreword to *The Way of Mindful Education*, (Rechtschaffen, 2014), Jon Kabat Zinn refers to this neglect of the affective domain in education as an overlooking or ignoring of the domain of interiority:

... of the inner life of the growing learner and how it can and needs to be recognized, attended to, nurtured and developed in concert with all the outer knowledge competencies so that each child learns how to be at home in his or her own skin, how to calm his or her own mind and how to cultivate self-awareness, emotional intelligence, confidence, and resilience in the face of stress of all kinds and the pressures to perform, to be a certain way, and to fit in. (p. xvi)

Acknowledging the work of teachers, Kabat Zinn believes that more and more teachers are turning to mindfulness in their classrooms to counteract this “consistent exclusion of the inner life of their students from the curriculum” (Kabat Zinn in Rechtschaffen, 2014, p. xvi), to promote and support qualities such as being fundamentally whole and OK as you are. Simple mindfulness practices can offer strategies for working with the storms and turbulence that inevitably overtake the mind at times and cause distress, sadness or anger, or a sense of not fitting in, or even not wanting to learn (Rechtschaffen, 2014).

Aligned with addressing the need for educational approaches that focus on the affective domain of learning, great strides have been made in recent years in the development of customised, age-specific mindfulness programmes in Australia, United Kingdom (UK) and the United States (US). Piloted and evaluated programmes such as the UK based Mindfulness in Schools (MiSP) .b (pronounced “dot b” – Stop and Be) and its counterparts for younger children: *Dots* and *Paws b*; the Australian *Smiling Mind* mindfulness programme for primary schools and the US based *A Still Quiet Place*; *Inner Kids*; *Mindful Schools* and *MindUP* programmes, are now widely used in educational settings and many have been translated into other languages to support social and personal health education policies at a global level.

Of particular relevance to this study which utilises the MiSP .b and Paws b programmes, it is important to note that such mindfulness programmes for children differ substantively from adult programmes in which mindfulness training emphasises meeting challenging states through explicit cultivation of the attitudinal foundations of non-judging, patience, beginner’s mind, trust, non-striving, acceptance, and letting go, as articulated by Kabat-Zinn (1991). In contrast, children’s mindfulness programmes prioritise emotion regulation, attention skills, and social–emotional learning in age-appropriate practices that are shorter, more varied, and more playful than extended meditation. The attitudinal foundations are conveyed implicitly rather than formally articulated. Where adults engage in self-inquiry and reflective dialogue, children learn through experiential activities

embedded in everyday contexts. As a result, while both adult and children's mindfulness programmes cultivate similar qualities of non-judgemental awareness and acceptance of present moment experiences, the pedagogical approaches, depth of explanation, and level of abstraction differ considerably.

Although research studies with younger children are still at an early stage, there is now an expanding interest in mindfulness-based approaches with children and adolescents and the emergent evidence base of MBIs in educational settings bodes well for future development. In her findings from 20 early school-related studies, many of which were conducted with primary school children, Weare (2013) finds that mindfulness fits in well with the current general emphasis in education, health and social policy across the globe and that "well-conducted mindfulness interventions can improve wellbeing, sleep, self-esteem, calmness, relaxation, self-regulation, awareness and aspects of cognitive function and physical health. In addition, they can reduce worries, anxiety, distress, reactivity and bad behaviour" (Weare, 2013, p 150). In general, findings show that "Mindfulness benefits the whole child—the mind, body and emotions and ... feelings of connectedness with self, others and the environment" (Ager et al., 2015, p. 912). More recently, a further body of meta-analyses has been published, documenting the current global field of research in MBIs with children and adolescents from 3-18 years, predominantly conducted in educational contexts. While these will be discussed in detail in Chapter 2, findings signal their potential to impact positively on attentional processes, emotion regulation and wellbeing in children and young people, with the majority of studies showing modest but significant gains (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023).

The WHO advises us that schools are a universal point to deliver services promoting health and wellbeing to young people. Addressing the mental health needs of children and adolescents has become an increasing focus in schools, with MBIs considered a relatively cost-effective method of offering support (WHO 2017b).

1.2.3 Mindfulness as a Whole-School Approach

In recent years, interest has intensified in a whole-school approach to pastoral care that supports the holistic development of students as they learn (De Jong & Kerr-Roubicek, 2007). In a UK report titled *What Works in Developing Children's Emotional and Social Competence and Wellbeing?* a whole-school approach is recommended, involving all members of the school community engaging in a collaborative process of change, to improve specific areas of school life that impact on student wellbeing (Weare & Gray, 2003).

In the Foreword of the *Wellbeing Policy Statement and Framework for Practice 2018–2023* for Irish schools, former Minister for Education and Skills, Joe McHugh, highlights the benefits of a whole-school approach when he states that “current research indicates that what is most beneficial in the promotion of wellbeing in education is to adopt a preventative, whole-school approach that is multi-component, and evidence-informed” (Department of Education and Skills, 2018, p. 1). Adopting a whole-school approach has been found internationally to produce a wide range of social and educational benefits for individual children and young people (Weare & Gray, 2003; Weare, 2015).

In 2015, The UK Partnership for Wellbeing and Mental Health in Schools (a national network of 40 UK-based organisations convened by the National Children’s Bureau) published an advisory document for schools titled: “*What works in promoting social and emotional wellbeing and responding to mental health problems in schools?*” (Weare, 2015). In her Introduction, Weare states that “this advice covers two overlapping areas of school practice: promoting positive social and emotional wellbeing for all in schools and tackling the mental health problems of pupils in more serious difficulty” (p. 1). Weare poses the question – What works? and responds that there is clear evidence from well-conducted systematic reviews to support schools in employing a 4-point approach to improve outcomes:

1. Engage the Whole Community.
2. Engage pupils through encouraging pupil voice, authentic involvement in learning, decision-making, and peer-led approaches.
3. Engage parents/carers and families in genuine participation.
4. Take a whole-school approach – and implement it carefully. (p. 5)

A whole-school approach to pastoral care argues that schools are seen as needing to be responsive to the wider community and to include parents and families “in shared discussions about curriculum, values, behaviour, safety, care and support” (De Jong and Kerr-Roubicek, 2007, p. 10). In 2018, a review of policy and practice of pastoral care in New Zealand schools, supported this view, citing the Department of Education in Western Australia as stating that pastoral care is shared by and is the responsibility of everyone (Department of Education Western Australia, 2005).

Following the rise in publications on mindfulness in education, Ergas (2019) formulates three roles of mindfulness practice in education: mindfulness *in*, *as* and *of* education. He argues that while much of the field is governed by mindfulness *in* education “within economic-therapeutic interventions, where mindfulness is moulded by contemporary educational settings, forking into diverse modalities of implementation and

aims” (p. 6), “mindfulness as education positions the practice as both serving educational aims and as an inherently worthwhile activity, giving it a far more robust presence in the curriculum as reflected in a whole-school approach” (p. 10).

The launch of the government’s *Wellbeing Policy Statement and Framework for Practice* in 2018 in Ireland (Department of Education and Skills, 2018) positioned the promotion of wellbeing as central to the Department of Education and Skills’ mission to enhance wellbeing in our school communities. In the Foreword of the revised edition of the Framework for Practice (Department of Education and Skills, 2019), former Minister for Education and Skills, Richard Bruton, stresses that the national focus in the Framework for Practice provides advice and direction to educators to ensure that children and young people are supported in their endeavours to navigate the wide range of challenges that currently impact on wellbeing, so that they may reach their potential now and in the future.

1.2.4 Personal Rationale

In this research study, the author finds herself in the dual role of MBI teacher and researcher. I have devoted my life to education as a classroom teacher, a facilitator of professional development training and as a teacher educator. I have always been aware of an incongruity within educational systems that ignore the affective aspect of education and fail to educate learners to develop a sense of wholeness of the physical, emotional and mental aspects of the self and operate from the potentiality within.

Having been introduced to meditation practice in my late teens, I have had a lifetime of personal experience of its power to heal and transform at many levels. During the last 15 years, I returned to professional development in this area and completed teacher training as a Mindfulness Based Stress Reduction (MBSR) teacher with the Centre for Mindfulness in Medicine, Health Care and Society at the University of Massachusetts. Additionally, I completed teacher training in three of the UK based Mindfulness in Schools Programmes (MiSP) for young children, teenagers, and parents/teaching staff. All training programmes were experiential and face-to-face in nature and were completed in parallel with multiple silent retreats to deepen practice.

My overall ambition is to contribute to the improvement of children’s lives by promoting the implementation of mindfulness-based programmes in schools, both as preventive and interventive measures to support wellbeing.

1.3 Research Design

The setting for this research study is a large co-educational Irish primary school with 540 participant children in the MBI. School staff comprises the school principal, 28 teachers, 7 special needs assistants (SNAs), 2 administrative staff and a school caretaker.

Over a two-year timeline, all children (apart from two families who chose to opt their children out of the study), participated in an 8-week¹ mindfulness course, delivered in their classroom as part of the school's SPHE programme by the researcher. All SNAs and administrative staff participated in an 8-week mindfulness course after school hours. Teachers were invited to attend drop-in mindfulness sessions during the school's scheduled "Croke Park²" hours, over the two-year duration of the intervention. In the first year, 2 X 8-week mindfulness programmes were offered as evening classes to parents of children from 3rd to 6th classes who wished to attend. The research paradigm adopted a qualitative-dominant, mixed-methods, multiphase, exploratory, case-study approach. Quantitative data were collected from children in 3rd to 6th classes, through pre- and post-course measures of mindfulness using the psychometrically validated Child and Adolescent Mindfulness Measure (CAMM; Greco et al., 2011) (Appendix O: p. 43). Qualitative data were collected from all children through worksheets, drawings, recorded group exit discussions, written exit interviews (from 4th to 6th class levels), researcher field notes and reports of children's engagement with mindfulness outside of school, emailed to the researcher by parents. Qualitative data were also collected from participating adults through written exit interviews. Quantitative data were analysed using Statistical Package for the Social Sciences (SPSS) software. Qualitative data were analysed through thematic analysis according to the framework of Braun and Clarke (2022).

1.4 Research Question/s

As this mixed-methods case study is exploratory in nature, it aims to explore the outcomes for participating children, of the implementation of an MBI through a whole-school community approach in an open-ended manner. To guide this exploration, the research is underpinned by three key research questions which ask, if children engage in a mindfulness course in their classroom as part of a whole-school MBI: (1) What are the associated outcomes for participating children? (2) Will children engage in independent

¹ Duration of 6th class programme (.b) was 10 weeks.

² In Irish primary schools, teachers are required to contribute 36 hours of non-class contact time per year, known as Croke Park hours, to be used for essential school activities such as staff meetings, planning, parent-teacher meetings, and continuous professional development, with a plan for these hours developed by the principal and staff.

mindfulness practice beyond the classroom? (3) Will engagement in an 8-week mindfulness course impact children's CAMM (Greco et al., 2011) post-intervention mindfulness measure when compared with pre-intervention measure?

1.5 Thesis Layout

Following this introduction, Chapter 2 presents the literature review in two parts: Part 1 provides a contextual background to this study; Part 2 presents a critical analysis of a body of current literature in the field of MBIs in education. Chapter 3 details the philosophical assumptions, project design and the methodological approaches employed. Chapter 4 presents qualitative data findings while Chapter 5 presents quantitative data findings from statistical analysis of mindfulness measures. Chapter 6 discusses the findings, aligning them with the current research field. Limitations of the study are outlined. Conclusions are presented along with recommendations for future research.

The next chapter presents the Literature Review.

Chapter 2: Literature Review

Part 1: Contextual Background

The literature review is subdivided into two parts. Foundational to this study, Part 1 presents a contextual understanding of the concept of mindfulness along with an overview of the development of secular mindfulness from its origins in Buddhist traditions. Part 2 reviews and analyses a body of literature on MBIs relevant to the study. As an understanding of the concept of mindfulness is foundational to this research study, this section defines mindfulness and examines its journey from spiritual traditions to a secular and scientific practice. The pioneering work of Jon Kabat Zinn at the University of Massachusetts Medical School is highlighted in the context of early research in the field of physical health and subsequent developments of research related to mental health and mindfulness-based stress reduction programmes.

2.1 Defining Mindfulness

“Mindfulness is an umbrella term used to characterize a large number of practices, processes, and characteristics, largely defined in relation to the capacities of attention, awareness, memory/retention, and acceptance/discernment” (Van Dam et al., 2018, p.37). The word *mindfulness* derives from the Pali language word *sati* meaning “memory” or “retention” but “as a mode of consciousness it commonly signifies presence of mind” (Bodhi, 2000; as cited in Brown et al., 2007, p. 212).

While conceptual definitions of mindfulness have been continuously revised and clarified over the last 40 years (Black, 2011), one of the difficulties in attempting to define mindfulness is that it cannot be easily placed in any one distinct conceptual framework or category such as “method”, “perspective”, “experience” or “cognitive process” as mindfulness traverses all of these concepts (Davis, 2012, p. 31).

The concept of mindfulness is originally rooted in Buddhist psychology, but it shares conceptual kinship with ideas advanced by a variety of philosophical and psychological traditions, including ancient Greek philosophy; phenomenology, existentialism, and naturalism in later Western European thought; and transcendentalism and humanism in America. That this mode of being has been commonly described suggests its centrality to the human experience, and indeed, mindfulness is rooted in the fundamental activities of consciousness: attention and awareness. (Brown et al., 2007, p.212)

Despite this centrality to the human experience of consciousness, there remains an assumed link to spiritual traditions with many forms of mindfulness practice

documented in ancient spiritual traditions worldwide. From contemplative prayer in Christianity, to transcendental meditation rooted in Vedic Hinduism, to the Sufi dances within Islam, to qigong of Daoism; spiritual traditions the world over have developed practices to cultivate a more mindful awareness and presence (Keating, 2002; Kelly, 2012; as cited in Ivtzan et al., 2016).

There are many definitions of Mindfulness, but a common theme shared among all these explanations is a general receptivity and full engagement with the present moment (Black, 2011). The definition most widely used today that has become the landmark definition in secular Mindfulness Based Approaches (MBAs) is “the awareness that arises from paying attention, on purpose, in the present moment, and non-judgmentally, to the unfolding of experience moment by moment” (Kabat Zinn, 2003, p. 145). A metaphor likens this non-judgemental state of awareness to that of a polished mirror, wherein the mind simply reflects what passes before it, unbiased by conceptual thought about what is taking place (Brown et al., 2007, p. 213). This awareness is a fundamental component of human consciousness and a mental capacity that can be strengthened through a variety of training methods. Mindfulness meditation is one such method (Meiklejohn et al., 2012).

In tandem with these definitions, Dr Shauna Shapiro, a professor of psychology at Santa Clara University, California, proposes three core elements which are engaged simultaneously in any mindfulness practice: *intention* (why one is practising), *attention* (the observation of thoughts, feelings and bodily sensations as they occur), and *attitude* (the qualities a person brings to their attention). “They are interwoven aspects of a single cyclical process and occur simultaneously, the three elements informing and feeding back into each other” (Shapiro & Carlson, 2009, p. 8).

The practice of mindfulness can be formal or informal in nature:

Mindfulness meditation, which can be practised sitting, lying down, standing, or moving, refers to the formal practice of intentionally attending to thoughts, feelings, body sensations, and sensory experiences as they arise moment to moment, with acceptance, and without getting caught up or identified with thoughts about the experience. Informal mindfulness practice refers to the weaving of mindful awareness into activities of everyday life, such as showering, walking, eating, and interpersonal interactions. (Meiklejohn et al., 2012, p. 307)

Broadly conceptualised, mindfulness has been described as a non-judgmental, present-centred awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is (Kabat-Zinn, 1990, 1998; Segal, Williams, & Teasdale, 2002; as cited in Bishop et al., 2004, p. 232).

2.2 From Spiritual Traditions to a Secular Practice

To promote the practice of mindfulness in a multicultural, secular society it was important to distance it from religious origins, thereby initiating a process of secularisation. This process has played a significant role in the development of MBIs suited to diverse platforms and applicable to a variety of settings including healthcare and education.

Over forty years ago, Jon Kabat Zinn, a graduate student of molecular biology from the Massachusetts Institute of Technology (MIT), an American Professor Emeritus of Medicine and the founder of the Stress Reduction Clinic (1979), and the Centre for Mindfulness in Medicine, Health Care, and Society at the University of Massachusetts Medical School (1995), realised the potential of the practice of mindfulness to reduce the suffering of a variety of chronic physical and mental problems (Kabat-Zinn, 2005). However, "he also acknowledged that a Buddhist framing is likely to prevent the possibility of offering it to those who may be aided by it" (Ergas, 2019, p. 7) and so took up the challenge of reimagining traditional mindfulness practices for a secular age, pioneering the development of a secularised approach which could be applied in multicultural and multid denominational platforms all over the world. Kabat Zinn's adaptation provided an alternative secular-clinical framing (Ergas, 2019), reworking awareness practices into a secular discipline for the psychological and medical benefits they provide (Meiklejohn et al., 2012).

This process of translating the term mindfulness into modern Western psychology without changing or distorting it from its original meaning brought with it a significant challenge. Kabat-Zinn suggests that the challenge was to ensure that mindfulness "honours the integrity of what may be different but complementary epistemologies" (Kabat-Zinn, 2003, p. 147). The culmination of this early work was the development of the now world-renowned, manualised, 8-week Mindfulness Based Stress Reduction (MBSR) programme, launched in 1979.

While Kabat-Zinn (2011) describes MBSR as an expression of a "universal dharma" that is "co-extensive, if not identical, with the teachings of the Buddha" (p. 290), this link to Buddhism was initially concealed to ensure acceptance within clinical and medical settings. Kabat-Zinn (2011) explicitly sought to avoid the risk of MBSR "being seen as Buddhist, 'New Age,' 'Eastern Mysticism' or just plain 'flakey'" (p. 282). Presenting MBSR as secular allowed it to be integrated into hospitals and universities, appealing to patients and clinicians who sought evidence-based, nonreligious interventions. Such secular rebranding of mindfulness has not been without its critics. Purser (2019) heavily criticizes MBSR, labelling the resultant commercialized practice as

"McMindfulness." He contends that this secular adaptation was extracted by being "stripped of the teachings on ethics that accompanied it" (p. 7) reducing it to a commodity sold as a "secular crypto-Buddhist spirituality" (p. 12). Purser also criticizes the framing of mindfulness as universally applicable and scientifically objective, arguing that such claims obscure its selective extraction from Buddhist contexts and its alignment with market-driven wellness culture.

MBSR (Kabat-Zinn, 1991; Kabat-Zinn, 2003) is a manualised eight-week group intervention, focused on practising mindfulness skills and mindfulness meditations, coupled with inquiry-based discussion of stress and coping strategies. MBSR is now used widely to reduce psychological morbidity associated with chronic illnesses and to treat emotional and behavioural disorders (Kabat-Zinn, 1998, as cited in Bishop et al., 2004, p. 231). Mindfulness Based Cognitive Therapy (MBCT), a further 8-week manualised group protocol, adapted from MBSR, was subsequently developed by Segal, Williams, and Teasdale (2002), to prevent the relapse of major depression. Relevant to this research study, it is important to note that a great many mindfulness-based curricula currently used universally in school-based or clinical contexts, including those used in this study, have been developed from adaptations of the MBSR and MBCT models, which have served as blueprints for age-appropriate mindfulness course development.

2.3 An Operational Definition of Mindfulness

At the turn of the 21st century, Bishop et al. (2004) argued that while there was a growing and substantial interest in mindfulness as an approach to reduce cognitive vulnerability to stress and emotional distress, mindfulness had not been sufficiently defined operationally. They deemed it essential to move toward a definition that was more precise and that specified testable theoretical predictions for the purpose of validation and refinement. A two-component model of mindfulness was proposed.

The first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterised by curiosity, openness and acceptance (Bishop et al., 2004).

This operational definition paved the way for testing and measurement and in 2003, a series of psychometric development studies provided the first valid and reliable measure of dispositional mindfulness: the Mindful Attention Awareness Scale (MAAS; Brown et al., 2003). Other validated measures have since followed. Relevant to this study,

these measures include among others, the Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al., 2004); and CAMM (Greco et al., 2011) – a 10-item measure of dispositional mindfulness developed for children from the 39-item adult KIMS. While there is still ongoing debate regarding mindfulness scales, such measures have contributed to a greater ability to study mindfulness on a scientific level (Bishop et al., 2004).

2.4 Conclusion Part 1

Mind-wandering appears to be the human brain's default mode of operation (Kabat Zinn, 1991). Human minds continually flit from experiences of past to future where we plan, ruminate about and rehash the past, and obsess, worry and stress about the future. In this fragmented and disconnected state where people often go about their lives on autopilot, we focus on the non-reality of the storytelling mind and ultimately miss out on the reality of each unfolding moment that is our life (Kabat Zinn, 2013; Williams et al., 2011).

Neuroscientist and mindfulness practitioner, Richard Davidson (2003), informs us that we can train ourselves to be more connected, less fragmented, and re-learn how to be present – a skill we once had as infants but lost somewhere along the way. With mindfulness practice, we can return to that childhood state of presence and develop a new relationship with our thoughts and emotions where we manage stressful and challenging situations rather than ploughing the same neural furrows of overwhelm.

Advances in brain imaging technologies within the field of neuroscience research in recent years have provided solid evidence which informs us that the physicality of the brain is not a fixed mass as previously believed but alters its very structure with experience; a process labelled brain plasticity (Davidson et al., 2003; Goldin et al., 2010; Lutz et al., 2008). When we sustain attention on the present moment, functional Magnetic Resonance Imaging (fMRI) scans show positive changes in brain architecture and inform us that we can strengthen those parts of our brain that help us to reduce anxiety and stress. Mindfulness training allows the brain to forge new neural connections, weaken harmful neural pathways and thereby counteract the impact of stress, trauma and constant distraction (Ma et al., 2004; Segal et al., 2002). Literally, with sustained mindfulness practice, we can train the mind to rewire the brain towards greater physical, emotional and mental wellbeing (Davidson et al., 2003; Kabat Zinn, 2013; Williams et al., 2011).

Part 2: Critical Analysis of Research

This research adopted a qualitative-dominant, mixed-methods case-study approach to explore a whole-school implementation of mindfulness in a primary school setting. As such, the initial focus of this review was to identify peer-reviewed literature related to: MBIs conducted with children and young people in educational settings; school-based MBIs conducted with primary-age children; MBIs with a whole-school approach at primary level; meta-analyses of MBIs with children and young people in educational settings; and primary school-based MBIs employing qualitative and mixed-methods approaches.

A variety of literature review methodological approaches were explored as to how best to present the process of searching for, evaluating, synthesising and analysing relevant literature. Following this exploration, a sequential, structured approach was deemed to be the most effective, and the four-stage SALSA framework (Search, Appraisal, Synthesis and Analysis) as proposed by Grant and Booth (2009) was adopted to guide a comprehensive and critical exploration of an existing body of research relevant to this study.

The review, structured according to these four sequential steps, outlines how (1) relevant literature was systematically identified and gathered; (2) quality and relevance of identified studies were evaluated for inclusion; (3) selected studies were mapped and synthesised to create a coherent picture of the current evidence base; and (4) synthesised literature was analysed to identify patterns and trends across findings; examine methodological weaknesses; explore how the literature frames future research; identify research gaps; and, in light of recommendations for future research directions, situate this research study within the existing body of knowledge.

2.5 Stage 1: Search

Stage 1 involved a systematic search of academic databases to identify current peer-reviewed studies related to the research topic. To begin the process, four high-quality databases were selected to ensure a wide-ranging and relevant search aligned with the research focus. Education Source Ultimate, recognised as the world's largest full-text database in education research was selected as a key starting point. This was complemented by Education Resources Information Center (ERIC), British Education Index, and the interdisciplinary academic database APA Psych Info. This combination was chosen for its emphasis on education, child development, and psychological dimensions

of MBIs, collectively providing a solid base for a thorough and balanced representation of relevant literature in the field. This search process was conducted on multiple occasions to ensure that newly published relevant studies were continually added to the evidence base.

As multiple meta-analyses and reviews of MBIs in educational settings have now been published, the initial search focused on identifying and retrieving a selection of meta-analyses/reviews relevant to the research study. Defining appropriate keywords as search terms was the first step in framing the scope of the literature search. A set of core keywords relevant to the research topic was drawn up to start the process. An initial search with the terms “mindfulness,” “mindfulness-based interventions,” “school,” “education,” “children,” “youth,” “adolescent,” and “young people” yielded a result of 4,397 studies. Applying the filters of “peer-reviewed,” “English language,” and (due to the proliferation of mindfulness research in schools in the last 15 years), confining the studies to the most current research published between 2010 and 2025, reduced the result of the second search to 3,141 studies. A refinement of the Boolean operators “and/or” combined with a modification of search options to “Find all my search terms” significantly reduced the results to 512. Results were reassessed after each search, and when reviewing these 512 studies it became clear that many studies were conducted with targeted subgroups outside mainstream classes (e.g. children at risk, children with behaviour problems, neurodivergent children). The iterative process of applying exclusion criteria with the Boolean operator “not” gradually refined the parameters of the search to mainstream settings, and multiple searches later, with the inclusion of the search keywords “meta-analysis,” and “systematic review,” results were reduced to 87 studies. Additional adjustments of age-related filters resulted in a collection of 10 meta-analyses and systematic reviews of MBIs conducted with children and young people in educational settings identified for progression to the second SALSA stage of Appraisal (Burke, 2010; Dunning et al., 2019; Felver et al., 2016; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023; Rempel, 2012; Zenner et al., 2014; Zoogman et al., 2015). (See Appendix A: pp. 2-4 for representation of initial search).

As the studies included in the 10 selected meta-analyses predominantly employed quantitative research methods and were conducted across a wide age-range of children and adolescents, a further search was undertaken to identify studies that utilised qualitative and mixed-methods approaches to MBIs with primary school children. Using a combination of the search keywords and Boolean operators of “mindfulness or mindfulness-based interventions or MBIs” and “classroom and primary school or elementary school” and “children,” yielded an initial result of 468 studies. Applying filters

of “peer reviewed,” “English language,” “primary age 6-12,” and limiting publication date to more current studies published since 2010, significantly reduced results, and a further exclusion of targeted subgroups along with the search keywords of “qualitative studies” reduced the results to 12 qualitative studies. A final refinement to exclude programmes that utilised other approaches along with mindfulness yielded seven relevant qualitative studies (D’Alessandro et al., 2022; Bannirchelvam et al., 2017; Duff, 2024; Holt et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017), all of which were progressed to the second SALSA stage of Appraisal.

In the early stages of this research study, a search for whole-school approaches to MBIs at primary level did not yield any results. A second search at a later date yielded one mixed-methods study of a whole-school approach to mindfulness at primary level in Israel (Sheinman et al., 2018), and a more recent search yielded one further mixed-methods whole-school approach to an MBI with primary school children in the US (Ventura et al., 2023). Two additional small scale mixed-methods mindfulness studies with young children in primary schools were also identified (Keller et al., 2017; Kielty et al., 2017). All four mixed-methods studies were progressed to Stage 2 for Appraisal.

In 2022, the MYRIAD (My Resilience in Adolescence) cluster-randomised controlled trial, aiming to provide evidence on universal school-based mindfulness training (SBMT) was published in the United Kingdom (Kuyken et al., 2022). Although situated in lower secondary school, as the age-level for Year 1 of secondary school in the UK is equivalent to the age-level of 6th class in Ireland, this study was also progressed to Stage 2 for Appraisal.

In summary, a total of 22 relevant studies published since 2010 were identified for progression to the next stage of Appraisal.

2.6 Stage 2: Appraisal

In this stage of Appraisal, the 22 collected studies underwent an initial examination to determine inclusion or exclusion for progression to the third SALSA stage of Synthesis in this literature review. Details of focus of studies, location, participants, and settings are documented for each study, along with a very brief synopsis of research methods, contribution to the research field of MBIs in educational contexts with children and young people, and their relevance and justification for inclusion in this study. It is important to note that in the case of meta-analyses and systematic reviews, research methods outlined in this initial appraisal refer to the methodologies of the included studies rather than the overall methodology of the meta-analysis or systematic review. For studies

selected for progression to the stage of Synthesis, details of research design, implementation, methods of data collection and analysis, key findings, and recommendations are synthesised in Stage 3.

To reiterate, within this sample of current and relevant literature selected for appraisal, 10 studies comprise either meta-analyses or systematic reviews of MBIs with children and young people, mostly conducted within educational settings (Burke, 2010; Dunning et al., 2019; Felver et al., 2016; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023; Rempel, 2012; Zenner et al., 2014; Zoogman et al., 2015); the MYRIAD cluster-randomised controlled trial is a stand-alone quantitative study across 84 schools; 7 studies employ qualitative research methods (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Duff, 2024; Holt et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017); 2 mixed-methods studies examine a small-scale approach to mindfulness at primary level (Keller et al., 2017; Kielty et al., 2017); and 2 mixed-methods studies specifically explore a whole-school approach to the implementation of mindfulness at primary level (Sheinman et al., 2018; Ventura et al., 2023).

The 22 studies will be appraised in the order of the categories outlined: meta-analyses and systematic reviews, the MYRIAD trial, qualitative research studies and mixed-methods studies. For clarity, study details are supplied in tabular format followed by a brief summary of their contribution to the research field, along with relevance and justification for inclusion in the literature review. Appraisal of each of the 22 studies along with reasons for inclusion or exclusion from progressing to the next stage, is presented in Appendix B: pp. 5-22.

Following Appraisal, 17 studies were selected for progression to the next stage of Synthesis. As outlined in Appendix B, five meta-analyses/systematic reviews were excluded from progressing to the stage of Synthesis.

2.6.1 Overview of Appraised Studies for Inclusion

Seventeen studies were selected to represent a broad spectrum of approaches, methodologies, research designs, implementation strategies, and diverse populations in school-based MBIs. These approaches included small group settings, mainstream classrooms, and whole-school models, with participants from 3 to 19 years, spanning a range of socioeconomic and ethnic backgrounds. The studies were conducted across four continents, including research from Europe, US, Canada, Australia, New Zealand, Israel, and South America.

The studies reflect multiple research foci, such as addressing the growing prevalence of stress and anxiety in children; evaluating the efficacy of MBIs in improving cognitive, behavioural, and mental health outcomes in children and adolescents; exploring the impact of mindfulness on emotion regulation and coping strategies; examining its effects on children with emotional and behavioural disorders and those identified as at risk; identifying personality traits linked to receptiveness or resistance to mindfulness; investigating how children apply mindfulness practices in daily life; and assessing the effectiveness and cost-effectiveness of universal school-based mindfulness training compared to teaching-as-usual.

Research methods ranged from quantitative to qualitative to mixed methods, with qualitative components highlighting the voices of children alongside the perspectives of teachers, school counsellors, and clinicians. Research designs included RCTs, NRCTs, and QEDs, with many studies not including a control group. Implementation strategies, including programme duration and dosage, varied considerably, from brief interventions to mindfulness programmes fully integrated into the school curriculum.

While an emphasis was placed on selecting studies involving mainstream primary school populations, the overall sample was intentionally diverse to reflect the broader research landscape of inclusive education and provide a solid foundation to underpin the current study's focus on a whole-school approach to mindfulness implementation.

2.7 Stage 3: Synthesis

The third stage of Synthesis involves mapping studies against one another in a descriptive manner to create a coherent picture of what the literature says, highlighting areas of consensus and divergence along with key patterns.

Excluding study details already provided in the second stage of Appraisal, synthesis of the 17 studies will be structured under the main headings of:

1. Research Design and Methods of Implementation
2. Data Collection and Analysis
3. Key Findings
4. Recommendations for Future Research

Under each of these headings, the studies will be synthesised in the order of meta-analyses and systematic reviews; the MYRIAD trial; qualitative research studies; and mixed-methods studies. Aligned with the qualitative-dominant, mixed-methods, whole-school approach of the current study in a primary setting, greater consideration will

be given to the key findings and recommendations of qualitative and mixed-methods studies; along with those involving primary school populations and promoting whole-school approaches.

2.7.1 Research Design and Methods of Implementation

2.7.1.1 Meta-Analyses and Systematic Reviews. The predominantly mainstream, education-based studies included in the five selected meta-analyses/systematic reviews comprise a variety of research designs in their investigations of MBIs with children and young people. With RCTs, highlighted as the "gold standard" of research design (Dunning et al., 2019, p.3), a majority of studies utilised RCTs; with quasi-experimental designs (QEDs) and non-randomised controlled trials (NRCTs) also prevalent. A small number of mixed-methods research (MMR) studies were included along with one study employing qualitative research (QL) methods.

An evolving aspect of MBI research design is the growing attention to developmental-stage specificity. "Earlier meta-analyses failed to comprehensively capture the influence of age as a moderator. Between ages 4–20 years, children and adolescents vary significantly in terms of their developmental and executive functioning; factors that are highly relevant to the mechanisms that underpin MBIs" (Kander et al., 2024, p. 4). While Dunning et al. (2019) reviewed studies across a broad age-range with participants of 18 years or younger, more recent reviews have begun to focus on research with narrower age-bands to identify age-specific effects. In their eligibility criteria for included studies, Holt and Atkinson (2022) focused on 3-9-year-old children, Kander et al. (2024) focused on preadolescents aged 6-12 years, McKeering and Hwang (2019) focused on early adolescents (11-14 years); and Pickerell et al. (2023) focused on 7-12-year-olds. Table 1 provides an overview of the research designs of the total studies analysed within the meta-analyses and systematic reviews, with the inclusion of age-ranges of participants.

Table 1*Age-ranges and Research Designs of Studies Included in Meta-Analyses/Systematic Reviews*

Authors	Age-range	RCT	NRCT	QED	MMR	QL
Dunning et al. (2019)	18 yrs or under	33				
Holt & Atkinson (2022)	3-9 years	6		6	1	1
Kander et al. (2024)	6-12 years	21		11		
McKeering & Hwang (2019)	11-14 years	6		1	6	
Pickerell et al., 2023	7-12 years	18 ³				

All meta-analyses and systematic reviews revealed significant heterogeneity in the methods of implementation of MBIs with youth. A key aspect of this was the diverse content of the programmes (Kander et al., 2024), with “22 different MBI protocols identified” in the 33 RCTs analysed by Dunning et al. (2019, p. 254). While many studies involved age-appropriate manualised mindfulness programmes, many were adapted from adult MBSR and MBCT models (Holt & Atkinson, 2022; McKeering & Hwang, 2019). A major concern raised by Dunning et al. (2019) is that “40% of the MBI protocols included here were developed and implemented by the researchers themselves, enhancing the likelihood of bias when those interventions are evaluated by their developers” (p. 254). The duration and dosage of the MBIs varied considerably, ranging from brief daily practices (3-12 minutes) to longer weekly sessions lasting an hour or more, implemented over periods from several weeks to a full school year (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). Programmes targeting younger children (ages 3–9) often used shorter, gradually lengthening sessions to accommodate lower attention spans (Holt & Atkinson, 2022).

Facilitators implementing MBIs varied and included classroom teachers, researchers, external trainers, and educational psychologists (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). While teachers were often seen as vital for sustainability and cost-efficiency, the level of

³ Breakdown of numbers of RCTs, NRCTs or QEDs not supplied. Studies were included if they were randomised controlled trials (RCTs), quasi-RCTs and non-randomised controlled trials, with 7–12-year-old children in primary or elementary mainstream schools” (Pickerell et al., 2023, p. 1070).

their mindfulness experience and training differed widely (Holt & Atkinson, 2022; Kander et al., 2024).

The reporting of intervention fidelity in methods of implementation was often lacking and cited as a recurring methodological shortfall across studies. McKeering & Hwang (2019) highlighted that “different facilitators will bring their own nuances and personality to the delivery of the program,” potentially influencing outcomes (p. 608).

Core practices within MBIs across all meta-analyses/systematic reviews consistently included mindful breathing along with additional experiential activities such as mindful movement, sensory awareness practices and storytelling, with metaphorical language used to support interventions with younger children (Holt & Atkinson, 2022).

2.7.1.2 MYRIAD Trial: The MYRIAD trial employed a parallel group, cluster-randomised controlled trial design. Schools were the unit of randomisation with entire schools, rather than individual students, assigned 1:1 to either the school-based mindfulness training (SBMT) intervention or teaching-as-usual (TAU) control group. To ensure the two groups of schools were comparable, the randomisation process was stratified based on factors of school size, quality, type, deprivation, and region. Fidelity of SBMT delivery was assessed through recording of classes.

Across all 84 schools, the method of implementation of the SBMT programme consisted of 10 manualised, structured lessons, 30–50 minutes each, delivered over one school term. The programme was adapted from mindfulness-based cognitive therapy and introduced students to a range of skills, such as attentional control and self-regulation of thoughts, feelings, and behaviours. It was taught by teachers at the school who received training provided to schools allocated to the SBMT arm, aiming to maximise fidelity in programme delivery. The TAU control group received teaching-as-usual, which comprised standard social-emotional education already provided by the schools.

2.7.1.3 Qualitative Studies. Seven studies employed qualitative research designs, aiming to explore student and teacher perceptions of mindfulness interventions in school settings rather than merely deliver statistical outcomes (D’Alessandro et al., 2022; Bannirchelvam et al., 2017; Duff, 2024; Holt et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017). A significant consensus across studies is the prioritization of the child's voice with a significant gap identified in the literature as “the general omission of the child’s voice in how they experience and benefit from mindfulness-based intervention” (Bannirchelvam et al., 2017, p. 2).

Participant age-ranges varied, with selected studies focusing on children from early years, ages 3-6: (Duff, 2024; Holt et al., 2022; Piotrowski et al. 2017); to older elementary and middle school students, ages 7-14: (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Hutchinson et al., 2018; Kempf et al., 2024).

Methods of implementation varied from integrating mindfulness training into regular classroom routines (Duff, 2025; Holt et al., 2022; Piotrowski et al., 2017); to 8-week interventions using structured mindfulness curricula (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Kempf et al., 2024) to more embedded, long-term approaches within the school curriculum (Hutchinson et al., 2018). MBI facilitators included classroom teachers (D'Alessandro et al., 2022; Holt et al., 2022; Piotrowski et al., 2017), external facilitators/provisional psychologists (Bannirchelvam et al., 2017); school counsellors (Kempf et al., 2024); and clinicians teaching mindfulness at a dedicated clinical centre for mindfulness (Duff, 2024). Table 2 provides an overview of the heterogeneity of MBI implementation methods within the seven qualitative research studies along with further details of participants and locations to those already supplied in Stage 2 of Appraisal.

Table 2*Overview of Implementation Methods of MBIs in Qualitative Research Studies*

Authors	Location	Participants	Duration / Dosage	Programme	Facilitator/s
D'Alessandro et al. (2022)	Canada Elementary school (as documented in study)	51 children Grades 6-8 Ages 11-14	8-week daily classroom -based programme	MindfulMe! curriculum (Adapted from MindUp)	Classroom teachers
Bannirchelvam et al. (2017)	Australia Public primary school	8 children identified as at risk by teachers Grades 3-6 Ages 7-11	8-session programme 6 weekly sessions plus 2 booster sessions	Triple R programme	External facilitators Registered psychologists
Hutchinson et al. (2018)	Wales Co-educational state primary school	15 children Year 6 Ages 10-11	Long-term mindfulness training over 2 years. Classroom delivery supplemented by extra-curricular club and pilot spiral school programme	Paws.b Mindfulness curriculum	Classroom teacher External facilitators involved in earlier training
Duff (2024)	US Clinicians at a clinical centre for mindfulness in San Diego. Children from 4 primary schools	38 (children, teachers and clinicians) 24 children Ages 4-5 8 teachers 6 clinicians	Children had participated in mindfulness training at 4 primary schools (New York, Boston, San Francisco and Texas) for at least six months		6 clinicians (3 psychologists 2 doctors 1 psychiatrist) 8 mindfulness teachers at 4 primary schools
Holt et al. (2022)	Northwest England Urban primary school	52 children 19 Nursery Ages 3-4 33 Reception Ages 4-5	Year-long action research project in Early Years setting Implementation twice daily in classroom		Classroom teachers
Kempf et al. (2024)	US	16 children purposefully selected Grade 5 Age 10	8 sessions during lunch or "specials period." Children divided into 3 small groups	Still Quiet Place Mindfulness programme	School counsellor
Piotrowski et al. (2017)	Canada Teacher interviews conducted at a location away from the school	4 teachers Primary Teachers in Kindergarten to Grade 3	Teachers incorporated mindfulness practices into daily classroom routines		4 primary classroom teachers

2.7.1.4 Mixed-Methods Studies. The mixed-methods study of Keller et al. (2017) had a Randomised Control Design, with 28 Grade 4 students in a public elementary school, assigned to either a mindfulness intervention group (15) or a control group (13). The 10-week intervention with a total of 27 sessions was classroom-based with the class teacher integrating 10 minutes of mindfulness activities at the beginning of a 90-minute literacy class. While the mindfulness activities were being conducted with the intervention group, the control group remained in the class but sat quietly and did not participate. Core practices included bell breathing, and guided meditation from the CD of Still Quiet Place mindfulness curriculum.

Kielty et al. (2017) utilised a 3-year mixed-methods design, delivering three 30-minute mindfulness lessons to 45 Grade 3 students over a 3-week period, with additional booster sessions provided for the same students in 4th and 5th grades. The study did not include a control group. The study reported findings from both quantitative and qualitative data with the researchers noting a "discrepancy between qualitative and quantitative results" where quantitative scores decreased despite positive qualitative feedback" (p. 321). The curriculum (developed by the researchers who also facilitated the sessions), blended materials from Mindful Schools and MindUP mindfulness programmes with core practices including "quieting the mind (emphasis on deep breathing and attention to thoughts), awareness of the body and awareness of emotion (emphasis on the range of human emotions and being aware of one's emotions" (Kielty et al., 2017, p. 318).

The study of Sheinman et al. (2018), involving 646 participants in 3 public primary schools in Israel, employed a mixed-methods, comparative, whole-school approach to explore the influence of the Mindful Language programme on students' coping strategies. The third school that had no mindfulness implementation, served as a non-randomised control (School C), for the schools with 13 years (School A) and 1 year (School B) of the Mindful Language programme. The researchers acknowledged that the study was conducted in schools in which the Whole-School Mindfulness in Education Programme (WSMED) was already in place, thus "eliminating the possibility of randomization, or pre-post measures, or the use of a wait-list control group" (p. 3326). Implementation involved 45-minute weekly mindfulness sessions in a dedicated room, taught by experienced instructors with classroom teachers attending. Core practices guided students "to pay attention to posture, breath, sensations, body boundaries, movements, sounds, emotions, images, and self-talk" (p. 3119).

Ventura et al. (2023) conducted a concurrent mixed-methods study to assess the effectiveness, and sustainability of implementing a whole-school MindUP curriculum in an

urban elementary school. The study explored implementation of the programme for both general education (Tier 1) and emotional behavioural disorder (EBD/Tier 3) student populations. This study utilised a "concurrent mixed-methods design" and stated that quantitative and qualitative methods were "given equal weight when identifying the areas of convergence" (p. 6). The study did not include a control group. As a whole-school MBI, all students participated unless parents refused consent, preventing the inclusion of a non-intervention control group. The MindUP curriculum's 15 lessons, 20-45 minutes in length and 3-minute breathing "brain breaks" were adapted based on teacher feedback, becoming "shorter, simpler, and supplemented" with PowerPoints, videos, and games (p. 15). The lessons were delivered by classroom teachers and staff, trained in the MindUP lessons and core practices. The principal also initiated daily whole-school morning "breathing moments" (p. 12). Table 3 provides an overview of the four mixed-methods studies demonstrating the variety of research designs and methods of implementation of the mindfulness programmes with further details of location and participants.

Table 3*Overview of MBI Research Designs and Implementation Methods in Mixed-Methods Studies*

Authors	Location	Participants	Implementation Duration Dosage	Research Design	Facilitator/s
Keller et al. (2017)	Public Elementary school	28 Grade 4 students Ages 9-10.	Classroom- based 10-week programme with 27 sessions	Mixed Methods RCT	First author in dual role as facilitator and researcher
	US	Experimental group (n=15) Control Group (n=13) Low-income and ethnic minority backgrounds	10 minutes of mindfulness activities at the beginning of a 90-minute literacy class Still Quiet Place CD for guided mediations		Experience as class teacher, mindfulness teacher and researcher
Kielty et al. (2017)	Elementary school	45 Grade 3 students from six classrooms	Mindfulness lessons were delivered as part of the school guidance programme	Mixed Methods	3 primary researchers, all licensed mental health providers, trained to deliver mindfulness to school-age children
	US	22 boys 22 girls 1 unidentified	3 X 30-min sessions over 3 weeks Programme developed by researchers from MindUP and Mindful Schools programmes	No control group	
Sheinman et al. (2018)	Public primary schools (3) in Israel	646 participants	Long-term integration of Mindful Language programme	Mixed Methods	Experienced external instructors with homeroom teachers attending
		330 boys 316 girls Grades 3-6 Ages 9-12	45-minute weekly mindfulness sessions Comparative Whole-School study of 3 primary schools	Non-randomised control group (School C)	
Ventura et al. (2023)	Urban elementary school in Florida US	55 staff 436 students	MBI in general education (Tier 1) and students with EBD (Tier 3)	Concurrent Mixed Methods	Classroom teachers and staff, trained in the MindUP lessons and core practices
		Whole-school approach All children participated unless parents refused consent	MindUP programme 15 MindUP lessons, 20–45 mins in length, taught over the course of the school year. 3-minute “brain breaks” at intervals during the day	Equal weight of quantitative and qualitative data No control group	

2.7.2 Data Collection and Analysis

2.7.2.1 Meta Analyses and Systematic Reviews. As the studies included in the five selected meta-analyses/systematic reviews were predominantly quantitative studies, all reviews highlighted a reliance on self-report questionnaires for psychological constructs of depression, anxiety, mindfulness levels, wellbeing, optimism, and emotion regulation (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). To enhance objectivity, some studies also collected reports from teachers and parents (e.g. behaviour, attention, emotion regulation) or direct performance measures for attention and executive functioning (Kander et al., 2024; McKeering & Hwang, 2019). On a lesser scale, physiological measures (e.g. blood pressure, heart rate, salivary cortisol) were also utilised (McKeering & Hwang, 2019). The small number of included mixed-methods studies and the single qualitative study collected additional qualitative data (e.g. interviews, focus groups, student journals and classroom observations) to understand participants' and teachers' experiences and capture insights on programme feasibility (Holt & Atkinson 2022; McKeering & Hwang, 2019).

The primary studies typically conducted pre- and post-intervention comparisons to evaluate changes in outcome measures (Dunning et al., 2019; Holt & Atkinson 2022; McKeering & Hwang, 2019). Although the specific statistical methods used were not always clearly reported, the quantitative results were analysed to produce effect sizes and summary statistics (means, standard deviations) necessary for meta-analyses (Dunning et al., 2019; Kander et al., 2024; Pickerell et al., 2023). For qualitative data, studies typically utilised the analysis method of thematic analysis, integrating these findings into broader syntheses (McKeering & Hwang, 2019).

The review authors critically evaluated the methodologies of data collection of the included primary studies, consistently highlighting weaknesses. A major concern was the heavy reliance on self-report measures, which were noted to be susceptible to "social desirability bias" (McKeering & Hwang, 2019, p. 604) with students providing answers that are "socially acceptable" (Dunning et al., 2019 p. 255), potentially inflating outcomes. To enhance validity, Dunning et al. (2019) recommended more "observer-rated measures and/or direct physiological or behavioural measures of relevant outcome variables" (p. 255). Additionally, the lack of long-term follow-up data also prevented analysis of sustained effects (Kander et al., 2024; Holt & Atkinson, 2022).

2.7.2.2 MYRIAD Trial: Quantitative measures of student outcomes were collected at baseline, pre-intervention, post-intervention, and at a one-year follow-up. Students

typically took a single lesson to complete the measures. Co-primary outcomes data collected through self-reporting included: Risk for depression (CES-D), social-emotional-behavioural functioning (SDQ), and wellbeing (WEMWBS). Secondary outcomes data collected included executive function, drug/alcohol use, anxiety, self-harm/suicidal ideation, school climate, and mindfulness skills, with some teacher-reported versions. Acceptability and engagement with School Based Mindfulness Training (SBMT) were also assessed via bespoke student measures. Quantitative data were statistically analysed. Effectiveness was assessed using mixed effects linear regression models for continuous outcomes and marginal logistic regression models for binary outcomes, accounting for school and class clustering.

2.7.2.3 Qualitative Studies: All studies employed qualitative data collection methods to capture nuanced perceptions and experiences of participating children and adults. Almost all studies utilised thematic analysis as the predominant analytical approach. Focus groups featured as the most common approach for collecting data from children across many of the studies. Authors highlighted the value of focus groups for their ability to elicit perspectives in a peer-supported environment and mitigate social desirability bias. D'Alessandro et al. (2022) and Hutchinson et al. (2018) employed student focus groups with semi-structured interviews, while Bannirchelvam et al. (2017) conducted individual semi-structured interviews. Duff (2024) conducted focus groups with children and semi-structured interviews with both teachers and clinicians. Alongside a staff focus group, Holt et al. (2022) collected children's views via a child voice questionnaire and maintained a research diary to capture the research process, activities, and reflections. Kempf et al. (2024) explicitly employed a "draw, write and tell" method, noting its effectiveness for eliciting ideas from children with varying verbal communication skills (Kempf et al., 2024, p. 17). Children's drawings also featured in the focus group interviews of Hutchinson et al. (2018). "At the end of the spiral mindfulness programme, the teacher invited the children to draw a picture on: "How do I apply mindfulness to my life?" They were instructed to bring the picture to the focus groups" (p. 3938) where the children's drawings served as prompts for discussion. Hutchinson et al. (2018) collected additional written information from brief mindfulness practice forms "which included questions about how often they practised mindfulness and how often they found it of benefit" (p. 3938). Piotrowski et al. (2017) conducted individual open-ended and semi-structured interviews with teachers.

To systematically identify patterns of meaning within qualitative data, thematic analysis was the primary data analysis technique employed across all seven studies (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Duff, 2024; Holt et al., 2022;

Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017). A number of studies documented methodological strategies employed to enhance trustworthiness and rigour in analysis of data and reduce researcher bias. Kempf et al. (2024) triangulated data of drawings and writings and used multiple researchers for coding. Holt et al. (2022) used inter-rater checking and member checking: “Transcripts were coded and themed by the researcher, with a sample shared with the supervisor for inter-rater checking ... To further reduce researcher bias, member checking was carried out with some members of the research team” (p. 219). Hutchinson et al. (2018) utilised “method triangulation” (p. 3939) of transcripts, written forms and drawing labels, and had their coding audited by experienced qualitative researchers. Bannirchelvam et al. (2017) had their themes reviewed by an external provisional psychologist for accurate representation.

2.7.2.4 Mixed-Methods Studies. As the four selected mixed-methods studies varied hugely in their methods of data collection and analysis they will be discussed individually in the order of the two small-scale studies followed by the large-scale studies incorporating whole-school approaches.

Keller et al. (2017)

Data Collection: Qualitative data sources for this RCT included student journal entries with written responses and drawings in response to prompt questions generated by the first author and classroom teacher, teacher ratings of student mindfulness breathing frequency, and the teacher's responses to online daily surveys. Quantitative data collected included pre- and post-intervention measures of the CAMM, and the Emotion Awareness Questionnaire (EAQ). Data collection occurred both concurrently (writing and drawing prompts throughout the 10-week intervention) and sequentially (pre- and post-intervention teacher ratings and cognitive measures).

Data Analysis: Qualitative analysis of journal entries employed an open-coding process to identify student perceptions and personality traits, followed by an iterative re-sorting and combining of codes into themes. Quantitative data were statistically analysed to evaluate changes in mindfulness, emotion regulation, and academic performance over time through *t*-tests and correlational analyses. Triangulation of the multiple quantitative and qualitative data sources was used to enhance internal validity.

Kielty et al (2017)

Data Collection: Quantitative data were collected by students completing the Mindful Student Questionnaire (MSQ) and the Positive Experiences at School Scale (PEASS) as pre- and post-intervention quantitative measures. Classroom teachers completed an anonymous Teacher Fidelity and Acceptability Measure online. “This

measure examines teacher perceptions about usefulness of the program, student engagement and participation in the program, and perceived impact on overall class functioning” (p. 319). Qualitative data were collected from both students and teachers. Students were surveyed anonymously at the end of the 3-year experience, and 68 out of 147 (47%) offered qualitative comments. Additionally, third and fifth grade teachers were surveyed throughout the 3-year process and shared their comments about their experiences with the curriculum and the students. Data were also collected from the school counsellor who relayed student and teacher responses after the entire 3-year process. Data were collected both sequentially (pre- and post-measures for the Mindful Student Questionnaire (MSQ) and Positive Experiences at School Scale (PEASS) and concurrently (ongoing comments from students and teachers throughout the 3-year study, including booster sessions).

Data Analysis: Paired sample *t*-tests were conducted on MSQ scores from pre- to post-intervention. Qualitative comments from teachers, students and school counsellor were analysed to "gauge intervention acceptability" (p. 320). Description of the method of qualitative analysis focused on summarising the nature of the comments rather than detailing a systematic analytical process or framework.

Sheinman et al. (2018)

Data Collection: Data were collected from 646 students using a five-item open-ended "Situation Questionnaire", which asked students to describe their coping strategies in various daily challenging scenarios. Questionnaires were administered anonymously by homeroom teachers. Data collection was sequential. Students' descriptions of coping strategies were qualitatively coded first, and then these categories were quantified.

Data Analysis: Initially, qualitative thematic coding was applied to student responses from the "Situation Questionnaire," with interrater reliability ensured through iterative coding and discussion among researchers. These qualitative categories were then transformed into a "quantitative mindfulness-based coping scoring system" (p. 3316) with 0, 1, or 2 points based on mindfulness relevance of the coping strategy. A multiple response system was used, and mean scores were computed for each student. A two-level regression model analysed the influence of school, age, and gender on mindfulness scores.

Ventura et al. (2023)

Data Collection: Qualitative data collected included interviews, informal focus groups, and feedback from school administrators, teachers, students, and university researchers, along with observational field notes and open-ended teacher surveys.

Quantitative data included pre- and post-intervention teacher assessment of student behaviours (Teacher Social Competence Rating Scale - TSCR), and student/teacher satisfaction surveys (SSS and TSS). Data were collected concurrently throughout the school year.

Data Analysis: Qualitative data were analysed for salient themes. Relevant data regarding interventions and feasibility were extracted by three researchers and then cross-checked by each other to ensure accuracy. Quantitative data were statistically analysed separately and then merged, using Wilcoxon rank sum and chi-square tests to compare student satisfaction and pre- and post-intervention improvements between general education (GE) and emotional behavioural disorder (EBD) student populations. The results were separated based on GE and EBD student groups as differences between these groups became apparent. Qualitative and quantitative data were analysed, initially separately, and then in order to determine consistency with the pre- and post-quantitative measures “their findings were merged to identify converging themes” (p. 7).

2.7.3 Key Findings

A summary of key findings across all studies will be presented in the order of Meta-Analyses and Systematic Reviews; the MYRIAD Trial; Qualitative Studies, and Mixed-Methods Studies.

2.7.3.1 Meta Analyses and Systematic Reviews. An overview of key findings across meta-analyses and systematic reviews revealed a number of areas of convergence and divergence as outlined below.

Overall Effectiveness and Effect Sizes: A consensus across all five analyses/reviews indicated that MBIs generally show small to moderate benefits for children and young people. Dunning et al. (2019) reported small effects across a number of areas but these were narrowed to Mindfulness, Depression, and Anxiety/Stress “when compared to active controls” (p. 248). Kander et al. (2024) observed a small but positive effect in 6–12-year-old preadolescents (p. 11). While McKeering & Hwang (2019) found positive improvement in wellbeing measures in 11 of their 13 studies, they reported MBIs were more effective for reducing negative mental traits (medium-to-large effects) than boosting positive ones (small effects) in early adolescents (p. 607). Pickerell et al. (2023) highlighted gains in emotional awareness, positive emotions, and lower depression levels in 7-12-year-olds “in interventions that ran for 12 weeks or less” (p. 1080). With a focus on young children aged 3-9 years, Holt & Atkinson (2022) noted that while “there were no consistent findings regarding improvements in wellbeing, findings suggest significant

improvements for internalising difficulties, emotional regulation, negative effect and positive effect ... with significant improvements in ... prosocial behaviours with small to large effect sizes” (p. 86).

Age-Related Differences in Outcomes: Many studies found that age moderates MBI effectiveness. Dunning et al. (2019) reported that “age significantly moderated the effects of MBIs on Executive Functions with greater relative benefits associated with older age” (p.253). McKeering & Hwang (2019) highlighted previous findings of Carsley et al. (2017), that “MBIs may be more effective in some developmental stages than in others” (p. 593). Pickerell et al. (2023) found that MBIs yielded more significant benefits for 10-12-year-olds in emotional modulation and depression reduction, compared to 7-9-year-olds who showed gains only in emotional awareness. Kander et al. (2024) focusing exclusively on 6-12-year-olds, found age not to be an overall moderator within this age-group.

Specific Outcome Domains for MBIs: Mindfulness: Improvements were noted by Dunning et al. (2019) and Pickerell et al. (2023). Kander et al. (2024) found no effect on mindfulness in preadolescents. *Cognitive Functioning:* Some gains in attention and executive functioning were observed (Dunning et al., 2019; Holt & Atkinson, 2022), though not in metacognition (Kander et al., 2024). *Emotion Regulation:* Positive effects were consistently reported for depression and anxiety (Dunning et al., 2019; McKeering & Hwang, 2019; Pickerell et al., 2023). Kander et al. (2024) reported small-to-moderate effects on emotional/behavioural regulation and positive emotion, but not negative emotion or internalizing problems.

Intervention Characteristics: Dunning et al. (2019) linked more training hours to reduced negative behaviour while Pickerell et al. (2023) found shorter durations of 12 weeks or less were more effective for emotional awareness. In contrast, McKeering & Hwang (2019) and Kander et al. (2024) observed minimal dose effects. While Kander et al. (2024) noted the facilitator’s experience had little effect, McKeering & Hwang (2019) suggested facilitator personality matters, linking an experienced facilitator to positive effects in some studies. Holt & Atkinson (2022) stressed the importance of teacher training for effective implementation of MBIs.

Methodological Rigour and Study Quality. All analyses/reviews highlight concerns regarding quality of studies. Persistent challenges across studies included vast heterogeneity, fidelity gaps and inconsistent measures (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). Dunning et al. (2019) and Kander et al. (2024) consistently found that higher

methodological rigor was associated with lower observed treatment effects, suggesting less rigorous studies may inflate findings. McKeering & Hwang (2019) pointed to common limitations in reporting fidelity, validity, and appropriate timing of outcome measures. Pickerell et al. (2023) identified unclear risk of bias in randomization and blinding.

In summary, while there is consensus of findings on the positive impact of MBIs on various aspects of youth wellbeing and cognitive function, key areas of benefit appear to be influenced by factors such as the age of participants, the duration of the intervention, and most importantly, the methodological quality of the studies.

2.7.3.2 MYRIAD Trial. The trial found no evidence that SBMT was superior to TAU in reducing the risk of mental health problems or promoting wellbeing at one-year follow-up, for any of the co-primary or most secondary outcomes. SBMT showed a high probability of cost-effectiveness (83%) but not when considering primary outcome measures. For 5/28 secondary outcomes, SBMT was associated with marginally worse results indicating that while they were statistically significant in some cases, the effect sizes were generally small. Specifically, students in the SBMT arm reported: higher self-reported hyperactivity/inattention on the Strengths and Difficulties Questionnaire (SDQ) subscale at both post-intervention and one-year follow-up; higher panic disorder scores on the Revised Child Anxiety and Depression Scale (RCADS) measure at post-intervention; higher obsessive-compulsive scores on the RCADS measure at post-intervention; lower levels of mindfulness skills on the CAMM (Greco et al., 2011) at post-intervention only. Additionally, teachers reported higher emotional symptoms on the SDQ for SBMT students at one-year follow-up only. No intervention-related adverse events were observed. Student acceptability and engagement with home practice were low.

2.7.3.3 Qualitative Studies. An overview of the key findings of the seven selected qualitative studies shows significant areas of consensus and divergence.

Self-Regulation: A major finding across all studies is the beneficial impact of mindfulness on children's ability to self-regulate. (Bannirchelvam et al., 2017; D'Alessandro et al., 2022; Duff, 2024; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017). Children repeatedly describe using mindfulness techniques to calm down and cope with difficult emotional challenges. "Mindfulness helped the children to regulate difficult and unwanted experiences, to calm down rather than be driven by emotional reactivity" (Hutchinson et al., 2018. p. 3940). Teachers noted calmer classrooms and improved student behaviour following mindfulness practice (Holt et al., 2022; Piotrowski et al., 2017).

Additional Social and Emotional Benefits: Findings suggest many broader benefits of MBIs, including improved focus (D'Alessandro et al., 2022; Duff, 2024; Holt et al., 2022; Kempf et al., 2024; Piotrowski, 2017); improvement in social and emotional skills (Duff, 2024; Holt et al., 2022; Kempf et al., 2024; Piotrowski et al., 2017); and the development of resilience (Duff, 2024; Hutchinson et al., 2018). Students shared many instances when they were prompted to use mindfulness techniques by the awareness of a negative emotional state. (Bannirchelvam et al., 2017; Hutchinson et al., 2018).

Enjoyment of Mindfulness: Most studies found that students generally liked the mindfulness programmes. However, some children found the activities boring or felt tired or uncomfortable (Bannirchelvam et al., 2017; D'Alessandro et al., 2022; Hutchinson et al., 2018). Student data consistently revealed a preference for active, hands-on, sensory, and movement-based activities instead of passive listening, or prolonged stillness (Piotrowski, 2017; Kempf et al., 2024). Bannirchelvam et al. (2017) noted that children spontaneously used apps like "Smiling Mind" to support practice, indicating the potential of technologies to support independent practice outside of school.

Challenges to implementation: Teachers repeatedly pointed out systemic barriers to effective implementation. These included large classes, lack of time and insufficient administrative support (Holt et al., 2022; Piotrowski et al., 2017). D'Alessandro et al. (2022) described challenges identified by students, such as tiredness, distraction, or discomfort during activities. Distractions, both external (noise) and internal (wandering mind, embarrassment, physical discomfort), were identified as further obstacles to practice (Holt et al., 2022; Hutchinson et al., 2018).

Potential Adverse Effects: Kempf et al. (2024) and Piotrowski et al. (2017) pointed out that mindfulness practices can bring up strong emotions. "Facilitators should be aware that there could be a participant in any setting who has experienced trauma or may have a negative emotion arise and have the training and skills to support participants in processing such emotions" (Saltzman, 2011, as cited in Kempf et al., 2024, p. 22).

Crucial Roles of Teacher Practice and a Supportive Environment: Teachers' confidence in delivering mindfulness practices significantly impacts student outcomes and helps to create a positive classroom environment (D'Alessandro et al., 2022; Holt et al., 2022; Piotrowski et al., 2017). A supportive school community is consistently acknowledged as vital for maintaining student engagement over time (D'Alessandro et al., 2022; Holt et al., 2022; Hutchinson et al., 2018).

2.7.3.4 Mixed-Methods Studies. Mixed-methods research studies highlight several key findings regarding MBIs in primary schools.

MBIs Positively Received and Beneficial: A consistent finding of the mixed-method studies is that mindfulness implementation is generally well received and seen as beneficial for both students and the school. Sheinman et al. (2018) found that whole-school mindfulness programmes significantly increased students' tendencies to use mindfulness-based coping strategies. Similarly, Ventura et al. (2023) concluded that a modified whole-school MindUP curriculum was positively accepted, effective, and sustainable, providing considerable benefits to students and promoting a calmer school climate. Kielty et al. (2017) also reported that interventions were well received by all groups involved.

Breathing: Ventura et al. (2023) identified breathing as the most helpful and most used mindfulness technique for managing and reducing student stress and for creating a “calmer school climate” (p. 19). The whole-school practice of “daily breathing breaks”, led by the principal, further encouraged a shared sense of calm (p. 17).

Student Engagement: Studies revealed different levels of student receptiveness. Keller et al. (2017) observed that while some 4th graders were open to mindfulness, others resisted it. Findings connected this receptiveness to several positive personality traits while resistance was linked to traits of boredom or the influence of peers. These findings match those of Ventura et al. (2023), who noted that students in mainstream education (Tier 1) showed overall improvements in behaviour, attention, and social-emotional skills. In contrast, students with EBD (Tier 3) mainly improved only in aggressive or disruptive behaviour, accentuating the need for differentiated approaches.

Age and Gender Differences: Sheinman et al. (2018) found outcome differences based on age and gender. Ten-year-old children showed a significantly greater willingness to use mindfulness-based coping strategies than 9, 11, or 12-year-olds. Additionally, girls were more likely to apply mindfulness-based coping strategies than boys, regardless of their age or level of engagement.

Adaptability and Teacher Engagement: Findings showed that flexible delivery of programmes and consistent teacher engagement are key factors for successful implementation. Ventura et al. (2023) pointed out that adapting lessons to be shorter and simpler, along with providing extra support materials, was critical for the MindUP programme's effectiveness. Securing teacher support was also noted as important for achieving positive learning outcomes.

Impact of a Whole-School Approach: Sheinman et al. (2018) found that a whole-school approach to mindfulness greatly supported students in their use of mindfulness-

based coping strategies. There was a link between the amount of in-class practice and children's tendencies to apply these coping strategies in real-life situations.

2.7.4 Recommendations for Future Research

A summary of recommendations by authors across all studies is presented in the order of meta-analyses and systematic reviews; MYRIAD trial; qualitative studies and mixed-methods studies.

2.7.4.1 Meta Analyses and Systematic Reviews. Recommendations across all meta-analyses and systematic reviews are outlined as follows:

Methodological Rigour and Research Design: There is a strong consensus for increased methodological rigour in MBI research with children and young people (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023) with Dunning et al. and Kander et al. calling for definitive RCT designs with plausible active control conditions. Improved reporting is consistently recommended for the validity of outcome measures (Holt & Atkinson, 2022; McKeering & Hwang, 2019; Pickerell et al., 2023). Given the diversity of programmes and involvement of multiple facilitators a key recommendation for future research is to assess intervention fidelity using standardised checklists and tracking time spent on core mindfulness practices (Kander et al., 2024; McKeering & Hwang, 2019). More longitudinal designs to collect follow-up data are encouraged (Holt & Atkinson, 2022; Kander et al., 2024; Pickerell et al., 2023).

Developmental Specificity and Age-Related Effects: A unanimous recommendation is to prioritise developmental specificity in research with a call for identifying optimal age ranges for different programme content and formats (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). As benefits in emotional regulation may be age dependent there is a need for research on "precise populations rather than a broad-spectrum approach" (Pickerell et al., 2023, p. 1084).

Intervention Characteristics and Duration: Recommendations concerning intervention duration show some divergence. While Dunning et al. (2019) found longer duration correlated with benefits to negative behaviour, Kander et al. (2024) found little effect of duration on overall outcomes for preadolescents. Conversely, Pickerell et al. (2023) recommend "shorter programmes that run within 1 school term (with a maximum of 12 weeks)" (p. 1084) as being more effective for emotional awareness in primary school

children. Holt & Atkinson (2022) suggest flexible, shorter, and more frequent sessions for younger children.

Mechanisms of Action: A central recommendation across all reviews is the need for more research into the mechanisms of action through which MBIs achieve positive effects (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; Pickerell et al., 2023) with Kander et al. (2024) recommending the utilisation of more “neuroscientific approaches” (p. 17) to understand these mechanisms.

Qualitative Research Methods: A key recommendation is for the inclusion of more qualitative data in MBI research to gain insights into children’s personal experiences. Holt & Atkinson (2022) emphasise the need for “further quantitative and qualitative research ... to elucidate how and why the programmes work, and under what conditions will they provide successful outcomes” (p. 89). This recommendation is echoed by Pickerell et al. (2023) who recommends employing “qualitative techniques for analysis” when investigating “programme design features and the suitability of content and skill-focus for different age groups” (p. 1068). They further specify that “qualitative data would provide insight from the children into factors that may affect their participation in the interventions” (p. 1084).

2.7.4.2 MYRIAD Trial: Future research should investigate what works, for whom, and how, considering key contextual and implementation factors. This includes exploring if different modalities (e.g. online) or more targeted interventions (e.g. for exam stress) are more effective. It also suggests re-evaluating if schoolteachers are ideally placed to deliver SBMT given the pedagogical differences from academic teaching, and the need to co-design curricula with young people to enhance acceptability and engagement.

2.7.4.3 Qualitative Studies: Qualitative studies present a range of core recommendations for advancing mindfulness research in primary schools emphasising adaptations of programme design and delivery; adequate teacher training; fostering a mindful community; utilisation of digital technologies to support implementation and practice, additional qualitative and neuroscience research studies; researching MBIs with diverse populations; and addressing systemic barriers in school settings.

Programme Design and Delivery: The seven qualitative studies provide consistent recommendations for school-based MBIs. They stress the need for flexible, active engagement and age-appropriate approaches that strike a balance between entertainment and education (D'Alessandro et al., 2022, p. 2117). There is wide agreement that delivery methods, including scheduling and session length, should be

adaptable to the needs of individuals and classrooms. It is recommended to use interactive practices like movement, art, or sensory activities instead of passive listening to explanations and instruction (Bannirchelvam et al., 2017; Holt et al., 2022; Piotrowski et al., 2017).

Teacher Education: A key agreement is the importance of teacher and facilitator personal practice and thorough training (Holt et al., 2022; Kempf et al., 2024; Piotrowski et al., 2017). Practitioners should embody mindfulness to build confidence in leading sessions effectively (Piotrowski et al., 2017). The studies also highlight the need to address potential negative effects, such as the risk of triggering strong emotions. Facilitators of MBIs must be highly skilled in trauma-sensitive practices to manage these situations (Duff, 2024; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017).

Mindful Community: Encouraging children to bring mindfulness into their lives outside the classroom is a common suggestion to promote wellbeing (D'Alessandro et al., 2022; Duff, 2024). Recommendations emphasise the value of a supportive community including encouragement of peers, collaboration among school staff, and involvement of parents to ensure successful integration and ongoing engagement (D'Alessandro et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024).

Use of Technology: A specific recommendation by Bannirchelvam et al. (2017), suggests using smartphone apps to support practice. "Further research is now needed to understand factors that encourage or prevent students from accessing and using applications such as Smiling Mind, how and when students use these applications, and the effect of this use on social and emotional wellbeing" (Bannirchelvam et al., 2017, p.19).

Qualitative Research: Hutchinson et al. (2018) recommend qualitative research as "an important complement to outcome research on mindfulness-based programmes" (p. 3936). D'Alessandro et al. (2022) refer to the "paucity of literature on students' opinions of mindfulness in the classroom" (p. 2116) in current studies and suggest more inclusive methods that ensure data collection from *all* participants (p. 2118). Across the studies, there is consistent agreement on the need to expand and improve qualitative research methods for MBIs. This will help capture the lived experiences and viewpoints of children from diverse backgrounds and age groups (Duff, 2024; Kempf et al., 2024). Holt et al. (2022) also recommend qualitative action research to identify the barriers and supports for implementing MBIs in schools (Holt et al., 2022).

Neuroscience Research: Several studies recognise the effects of mindfulness on children's cognitive and developmental processes. Hutchinson et al. (2018) note the need

for more neuroscience research to better understand the specific mechanisms at play. “Possible changes in attention and emotion regulation from mindfulness training with adolescents and pre-adolescents have been explored from a neuroscience perspective, with a call for further research in this area” (Kaunhoven and Dorjee 2017; Sanger and Dorjee 2015, 2016, as cited in Hutchinson et al., 2018, p. 3936).

Additional Areas for Research: Recommendations encourage further research to explore the long-term effects of participation in MBIs (Kempf et al., 2024). This research should also investigate the experiences of different youth populations to create a more inclusive and strong evidence base (Bannirchelvam et al., 2017; D'Alessandro et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024). Piotrowski emphasises the need to identify and address systemic barriers to MBI implementation, such as large class sizes, scheduling issues, and lack of administrative support (Piotrowski et al., 2017).

2.7.4.4 Mixed-Methods Studies: The reviewed mixed-methods studies present a range of key recommendations that echo those of the qualitative studies, primarily emphasising customised implementation, comprehensive teacher training, enhanced research designs, increased involvement of parents and caregivers and a whole-school approach to implementation.

Customised Implementation: A key recommendation from the mixed-methods studies is the need to tailor interventions to specific contexts and student needs. Ventura et al. (2023) emphasise the importance of keeping sessions short, simple, and enjoyable. They recommend that schools with limited funding focus on the specific technique of mindful breathing, which showed the greatest impact (p. 19). Similarly, Keller et al. (2017) suggest adding more physical movement or using game-based activities to engage resistant students, especially those prone to boredom (p. 524). Sheinman et al. (2018) also note that longer sessions or a higher dose of mindfulness may be necessary to achieve significant improvements in students' coping skills (p. 3325).

Teacher Support: There is wide agreement that the success of school-based MBIs largely depends on strong teacher buy-in and high-quality training. Keller et al. (2017) recommend “strong incentives for teachers to undergo mindfulness training,” and suggest that professional development should be thorough and include personal practice, modelling, and ongoing supervision (p. 526).

Enhanced Research Designs: Improving research methodologies is a consistent recommendation across all studies, with calls for more rigorous and inclusive designs. Long-term assessments of diverse student groups (Ventura et al., 2023) and “multi-perspective investigations” are emphasised to gain a fuller picture and address different

outcomes (Sheinman et al. 2018, p. 3326). Keller et al. (2017) recommend identification of personality characteristics of both receptive and resistant students as well as those prone to boredom, through pre- and post-testing of traits such as the “Big Five” (p. 524). Furthermore, the challenges of assessing mindfulness outcomes is evident, as seen in inconsistencies between qualitative and quantitative results, highlighting the need for alternative or more refined instruments (Kielty et al., 2017).

Involvement of Parents and Caregivers: A key recommendation for whole-school mindfulness programmes is for greater involvement of parents and caregivers. Studies on school-based approaches show that family involvement is essential for long-term effectiveness. Ventura et al. (2023) suggest “engaging caregivers earlier” in whole-school programmes to reinforce the use of mindfulness strategies at home (p. 18). Demonstrating breathing techniques at events like PTA meetings or parent evenings, allow families to develop a common understanding and shared language around mindfulness. “Specifically, future studies could investigate how mindfulness tools can be taught as an effective intervention to both students and parents” (p. 19). The intention is to extend the benefits of mindfulness beyond the classroom, helping students apply calming strategies at home, when faced with challenges.

Whole-School Approach: For successful whole-school mindfulness implementation, studies suggest a gradual, flexible, and collaborative approach. It is important to respect the “school culture and climate” using a “grassroots approach rather than imposing from the top down” (Kielty et al., 2017, p. 322). This view is echoed by Keller et al. (2017), who emphasise this school-wide commitment “to effectively support implementation” (p. 525). To promote initial buy-in and programme fidelity, Ventura et al. (2023) recommend starting school MBIs with a “self-identified group of teachers and leaders” before expanding it across the entire school (p. 19). For future research, Sheinman et al. (2018) stress that the whole-school approach to mindfulness would benefit from “collecting and analysing data using various methodologies and including teachers’ and parents’ perspectives” to better assess the effectiveness of interventions (p. 3326).

These synthesised collective findings and recommendations from all 17 synthesised studies will undergo a process of critical analysis in the next and final stage of the SALSA framework: Stage 4: Analysis.

2.8 Stage 4: Analysis

Following the synthesis of 17 selected studies exploring the impact of MBIs on children and young people, predominantly in educational settings, this final stage of the SALSA framework presents an analytical overview of the combined studies to identify dominant patterns and themes of collective findings; illustrate how the literature informs future research; and align this study with the current evidence base. The analysis is structured under four main themes (with each incorporating a range of subthemes): Convergent Patterns Across Findings; Strengthening Future Research; Addressing Research Gaps in the Field; and Positioning the Current Study within the Research Field.

2.8.1 Convergent Patterns Across Findings

This analysis of study findings focuses on thematic patterns identified across the 17 reviewed studies which comprised a range of research foci, research designs and methodologies within diverse contexts. Despite this heterogeneity, several consistent patterns emerged. The analysis is structured under six thematic headings: Emotion Regulation and Mental Health Outcomes; Age and Developmental Differences in MBI Effects; Social and Behavioural Outcomes in the Classroom; Cognitive Outcomes and Academic Implications; Implementation Challenges; and Teacher Role and Whole-School Approaches. This structure allows for a balanced exploration of the impact of MBIs in a variety of school settings, highlighting both the benefits and challenges evident across the research base. While methodological weaknesses emerged as a recurring theme across the findings of meta-analyses and systematic reviews, it is not included in this section but is discussed in the next section under the heading of Strengthening Future Research.

2.8.1.1 Emotion Regulation and Mental Health Outcomes. Findings from the five meta-analyses/systematic reviews suggest that school-based mindfulness programmes tend to produce small to moderate effects in improving students' emotional wellbeing and their abilities to self-regulate. Meta-analyses show modest but consistent mental health benefits with children and adolescents participating in MBIs showing small reductions in depression, anxiety, and stress when compared with control groups (Dunning et al., 2019). For preadolescents aged 6-12 years, Kander et al. (2024) report a small yet significant effect. Evidence suggests increased emotional awareness and reduced depressive symptoms in 7-12-year-olds when interventions are no longer than 12 weeks duration (Pickerell et al., 2023). In younger children (3-9 years), wellbeing related gains are less consistent, but benefits of improved emotion regulation, and prosocial behaviour increases were reported, with small to large effect sizes (Holt & Atkinson, 2022). Overall, the evidence points to modest but significant gains.

The findings of qualitative and mixed-methods studies support these trends and provide additional context. Students across a variety of school settings, regularly report that mindfulness helps them to calm down and manage difficult emotions (Hutchinson et al., 2018; D'Alessandro et al., 2022). Teachers report calmer classrooms, children demonstrating greater self-control, and increased empathy towards fellow students (Holt et al., 2022; Piotrowski et al., 2017). There is also evidence that mindfulness training may build resilience, with students independently applying strategies to alleviate stress (Duff, 2024; Hutchinson et al., 2018), both at school and in home contexts (Kempf et al., 2024). Further evidence of children's use of mindfulness-based coping strategies beyond the classroom is found in the whole-school approaches of the studies of Ventura et al. (2023) and Sheinman et al. (2018). Through working with intervention groups at different stages of implementation (13 years and 1 year), Sheinman et al. (2018) concluded that the transfer of mindfulness-based skills beyond the school context is more evident after more than one year of intervention.

There are divergent findings. The MYRIAD trial, found no significant effects in mental health outcomes between intervention and control groups at a 12-month follow-up assessment (Kuyken et al., 2022). This null result contrasts with the small positive effects documented in many smaller studies, highlighting that benefits are not guaranteed in every setting and may be moderated by other factors.

2.8.1.2 Age and Developmental Differences in MBI Effects. While research on age-specific benefits of mindfulness interventions is still at an early stage, the selected studies go some way to identify how age and its related developmental stages play a role in influencing how children and young people benefit from mindfulness training. However, findings to date are mixed. Dunning et al. (2019) reported greater effects in the executive skills of attention and impulse control with older adolescent participants compared with younger age groups. The findings of Pickerell et al. (2023) in their review of 20 studies targeting the outcome of emotion regulation in children aged 7-12 years, also found that even within that narrower age range, 10-12 year-old children showed significant improvement in the outcomes of emotion regulation and reduced depression whereas beneficial outcomes of younger children of 7-9 years were only in the domains of enhanced awareness and identification of emotional states. Pickerell et al. (2023) concluded that only MBI studies with participants averaging 10 years or older showed significant improvements in both targeted outcomes. Kander et al. (2024) acknowledged that while earlier meta-analyses covering broader age ranges identified age as an important moderator, the effectiveness of MBIs for pre-adolescent children might be masked by the effects shown by older children who comprised the majority of samples in

previous analyses. However, in contrast to the age-related findings of Pickerell et al. (2023), their review of 32 MBIs with 6-12-year-old children focusing on a range of cognitive, behavioural and emotional outcomes found no age-related differences in results, suggesting that the overall benefits of MBIs did not change significantly by age within this specific developmental stage. In studies with very young children (3-7 years), findings of outcome effects are more limited with small gains in emotion recognition, slight reductions in anxiety-type behaviours, and modest improvements in self-regulation (Holt & Atkinson, 2022). The whole-school study of Sheinman et al. (2018), also found distinct age-related patterns of engagement with MBIs: 10-year-olds used mindfulness techniques the most, outperforming both 9-year-olds and those aged 11-12 years, although there was no difference between usage of 11- and 12-year-olds. Additionally, girls consistently reported higher usage than boys, indicating a trend potentially related to gender.

Overall, the evidence points to a developmentally graded impact for MBIs, with greater outcome effects in later childhood and early adolescence. There was consensus across all studies that in order to maximise MBI effectiveness with children, programme content and delivery methods need to be flexible in their adaptation for context; with age-appropriate activities fundamental to the success of any programme.

2.8.1.3 Social and Behavioural Outcomes in the Classroom. MBIs in schools are often associated with enhanced social and behavioural outcomes. Across qualitative and mixed-methods studies where teachers' perceptions of the impact of a mindfulness intervention were documented, teachers frequently described calm classrooms with more co-operative children. Holt et al. (2022) report kindness, increased empathy and helpfulness among students while Piotrowski et al. (2017) reported children showing greater self-control and interacting with peers in a more considerate manner. Analysis of qualitative data representing the first-hand experiences of children within the qualitative and mixed-methods studies indicates enhanced focus, greater patience during group activities, less disruptive behaviour, and less conflict with others, which participants readily attribute to mindfulness training and practice. Studies with very young children document incidental prosocial effects with researchers reporting significant improvements in behaviours such as sharing, empathy, and cooperation, alongside other emotional benefits (Holt & Atkinson, 2022). Findings of the whole-school studies of Sheinman et al. (2018), and Ventura et al. (2023), indicate that embedding mindfulness practice in daily classroom routines lowers stress and promotes a calmer school climate for students and staff alike. However, effects vary across contexts. Ventura et al. (2023) noted that in their evaluation of a whole-school approach to mindfulness across the general population and also with children presenting with EBD, children who did not have any pre-existing

behavioural problems tended to show greater improvements in behaviour, attention, and social-emotional skills. In contrast, children with diagnosed EBD, showed more targeted gains, often limited to improvements in aggression and disruptive behaviour only, suggesting the need for further adaptations to address the needs of all students in an inclusive educational context.

While the evidence base supports school-based MBIs as a potentially valuable tool to foster a calmer and more respectful classroom with enhanced prosocial behaviour, impact is uneven. Effectiveness of MBIs is ultimately shaped by context and student needs, with higher-need students likely benefiting the most when mindfulness is paired with other targeted supports in a school.

2.8.1.4 Cognitive Outcomes and Academic Implications. Although rarely a focus of MBIs with children, where emotional outcome domains tend to be prioritised, school-based mindfulness programmes show mixed but modest cognitive benefits. Quantitative data analysed in meta-analyses indicate small improvements in attention and executive functions, including working memory and cognitive flexibility (Dunning et al., 2019; Holt & Atkinson, 2022); with no significant improvement in metacognitive skills (Dunning et al., 2019). Similarly, Kander et al. (2024) finds no significant effect in self-reported mindfulness with 6-12-year-olds. However, the recent inclusion of more qualitative data to the evidence base provides descriptions of increased attentiveness and awareness from children (D'Alessandro et al., 2022; Holt et al., 2022); with teachers reporting better focus and calmer behaviour as a result (Holt et al., 2022). Many educators believe that the shifts of reduced stress, greater calm, and improved concentration, have the potential to indirectly support and enhance academic learning (Duff, 2024; Kempf et al., 2024).

One mixed-method study found pre- and post-intervention mindfulness scores decreased despite qualitative data from focus group interviews revealing children's engagement with daily mindfulness practices. This was attributed to a possible heightened self-awareness at a cognitive level following mindfulness training, ultimately leading to a more enlightened and strict self-evaluation (Kielty et al., 2017).

With an evidence base predominantly focused on outcome domains related to children's mental and emotional wellbeing, limited findings show MBIs as being more effective for enhancing basic attention and classroom focus than for improving higher-order cognitive skills in younger students. Recommendations call for more qualitative and mixed-methods approaches to capture a deeper understanding of the full potential of MBIs for cognitive and academic impact.

2.8.1.5 Implementation Challenges. Analysis of literature across studies identifies an array of challenges influencing effective implementation of MBIs, ranging from those identified by students, to systemic barriers and potential adverse effects of mindfulness practice.

Evidence points to student engagement and enjoyment of a mindfulness intervention as foundational determinants of outcomes. Engagement declines when sessions are long, or of a didactic nature, sometimes described by students as “boring” or “pointless” (Bannirchelvam et al., 2017, p. 11). As an antidote to boredom, qualitative data reveals children’s preference for active, hands-on practices such as mindful movement, breathing games, sound-listening exercises, and guided imagery meditations, rather than passive listening (Bannirchelvam et al., 2017; D’Alessandro et al., 2022). Students also identified additional personal barriers, including feeling self-conscious or embarrassed practising in front of peers (Hutchinson et al., 2018). Others reported physical discomfort during still moments or eyes-closed exercises (D’Alessandro et al., 2022). Recommended strategies to address these challenges include concise and clear explanations, flexible options, and brief practices, along with classroom cultures that normalise participation. These identified challenges highlight the need for developmentally appropriate programme designs with flexible, interactive delivery to foster the engagement of younger participants.

Schools identified additional practical barriers impacting implementation. Teachers frequently reported insufficient timetable space, large class sizes, and limited administrative support (Holt et al., 2022; Piotrowski et al., 2017). Without scheduled time slots, supplementary materials, and adequate training, evidence shows that even motivated staff struggle to maintain programmes. Technology can sometimes be utilised as a tool to motivate reluctant participants who tend to disengage. Observing the eagerness of children engaging with the Smiling Mind App from the Australian primary mindfulness curriculum to support practice, Kempf et al. (2024) note the appeal of tech-mediated tools for digital-native learners.

Although rare, adverse reactions can occur during mindfulness practice, particularly to students with trauma histories. Reports include heightened anxiety or sadness with resurfacing memories (Piotrowski et al., 2017). Experts recommend trauma-sensitive delivery methods with adequate training of teachers to recognise signs of distress or emotional flooding; implement grounding techniques and one-to-one support; and modify activities or pause them if needed (Kempf et al., 2024).

Overall, most students enjoy MBI programmes, but a minority disengage or struggle, reinforcing the fact that mindfulness implementation is never a one-size-fits-all initiative.

2.8.1.6 Teacher Role and Whole-School Approaches. The teacher plays a pivotal role in successful MBI implementation with evidence linking teacher engagement and confidence in delivery to stronger student outcomes (D'Alessandro et al., 2022; Holt et al., 2022; Piotrowski et al., 2017). Committed, well-prepared teachers can significantly reinforce programme effects while unprepared or sceptical staff can weaken implementation. The quality and personality of a teacher/facilitator also plays a vital role in influencing student engagement (McKeering & Hwang, 2019). Data indicates that MBIs are most effective when delivered by well-trained, committed teachers with sustained integration dependent on school-wide commitment.

Implementing mindfulness as a whole-school approach with students and staff, produces more sustained outcomes than isolated delivery to classes or small groups. Ventura et al. (2023) reported that a whole-school MindUP programme led to cumulative gains for all, as mindfulness became part of school life. Reported benefits of whole-school approaches extend beyond the students to whole-school-level indicators: lower stress, less conflict, reduced absenteeism, and continued independent use of skills outside formal lessons (Sheinman et al., 2018; Ventura et al., 2023). Within a whole-school approach, administrative leadership plays a vital role: one principal's daily breathing exercises broadcast over the intercom were rated "the most beneficial mindfulness intervention ... for creating a calmer school climate" (Ventura et al., 2023, p. 19).

Study findings emphasise that whole-school models need to be flexible and adapt content to developmental needs, timetables, and school culture rather than relying on a uniform template, in order to achieve success. Ventura et al. (2023) emphasise that when these criteria are coupled with teacher buy-in and administrative support, benefits accumulated over years as routines consolidated, and expectations became shared.

In conclusion, while MBIs hold potential for supporting emotional wellbeing in children and young people, the research base indicates that benefits may be moderated by age and developmental stages; and the success of interventions is highly dependent on factors of delivery, quality of content, context, student engagement, and school support, requiring thoughtful, flexible and well-adapted methods of implementation.

2.8.2 Strengthening Future Research

Many recurring methodological weaknesses were identified by authors across the reviewed studies. An overview of these weaknesses with remedial recommendations, highlights a number of priority areas demanding further development in order to improve future studies. These priority areas are presented under thematic headings of Research Design; Generalisability; Intervention Fidelity; Outcome Instruments; and Follow-Up Measures. Additionally, research gaps in the current evidence base are identified, with authors recommending expansion of research to address these gaps as a further measure to strengthen future research and practice in schools.

2.8.2.1 Research Design. Numerous analyses and reviews stress the importance of more rigorous designs to strengthen future research. Dunning et al. (2019), and Kander et al. (2024) promote RCT design, stating that studies that lack RCT design without a control group make it difficult to assess if effects are mindfulness-related or from other influences. Equally, pre–post- designs without any comparison group prevent definitive conclusions regarding the impact of the intervention (Kielty et al., 2017). As weak research designs were continually flagged in meta-analyses and systematic reviews as a limitation that undermines the reliability of findings in studies, it is essential that future researchers adopt more robust and transparent methods of design in order to strengthen the evidence base for MBIs in educational settings.

2.8.2.2 Generalisability. Limited generalisability across studies emerged as a recurring methodological flaw. Findings of studies confined to specific age ranges, socio-economic demographics, or to schools with an established mindfulness culture, may not be representative of general populations and “generalisation to other settings may be low” (Holt et al., 2022, p. 225). Gender imbalances in participant groups further restrict applicability (D’Alessandro et al., 2022; Hutchinson et al., 2018). The context-specific nature of many studies calls for careful interpretation when applying findings to broader populations. A consistent recommendation is to diversify participant samples in MBI research to include a variety of age-ranges, backgrounds, and cultural contexts to improve the generalizability of findings (Bannirchelvam et al., 2017; D’Alessandro et al., 2022).

2.8.2.3 Intervention Fidelity. Intervention fidelity, was often undocumented or incomplete across MBI studies, leading to questions about the consistency of mindfulness instruction (Holt & Atkinson, 2022; McKeering & Hwang, 2019). Wide heterogeneity in programme design and methods of implementation across studies within the meta-analyses and systematic reviews was consistently flagged as a fidelity issue, limiting

comparison of results. Interventions differed in content, duration, dosage and delivery approach with one review identifying 22 different MBI protocols across 33 RCTs studied (Dunning et al., 2019). The dilution of programme quality was a common fidelity-related concern with many school-based MBIs adapting adult programmes such as MBSR/MBCT without theoretical frameworks for specific developmental stages. This dilution was further intensified by facilitators with inconsistent and inadequate levels of training (Holt & Atkinson, 2022; McKeering & Hwang, 2019). To improve intervention fidelity of MBI studies, researchers are urged to clearly define the intervention, use age-appropriate mindfulness programmes based on a theoretical framework, adhere to data collection and analysis protocols, provide adequate teacher training with ongoing support and mentorship, employ regular fidelity checks to monitor if the programme is being implemented as designed, and report fidelity results.

2.8.2.4 Outcome Instruments. A recurring criticism of research methods centred on the reliability of results in relation to how data are collected and outcomes measured. Given their susceptibility to social desirability effects, there is an overreliance on self-report measures, especially when working with children and young people. There was also a reliance on subjective teacher ratings with the potential for bias (Ventura et al., 2023). Instruments of outcome measure varied hugely and ranged from standardised measures to bespoke questionnaires, making comparisons difficult. Researchers urge improved validity of findings by pairing self-reports with objective assessments. Dunning et al. (2019) note that future studies could be strengthened “if self-report measures are augmented with observer-rated measures and/or direct physiological or behavioural measures of relevant outcome variables” (p. 255). As measuring mindfulness-related outcomes is challenging, Kiely et al. (2017) highlight the need for research to inform the development of alternative or more refined instruments.

2.8.2.5 Follow-Up Measures. A further weakness identified across studies is that of a short follow-up period. Most evaluations ended immediately post-intervention or within a brief follow-up interval, with very few studies extending evaluations into long-term tracking (Holt & Atkinson, 2022; Kander et al., 2024). The current evidence base therefore offers only a view of immediate impact, limiting conclusions about whether benefits last over time. To address this limitation and produce more reliable results, longitudinal follow-up is encouraged to assess sustained effects (Holt & Atkinson, 2022; Pickerell et al., 2023).

2.8.3 Identifying Research Gaps in the Field

By analysing the synthesis of recommendations for future research across all studies, 8 key areas were identified as research gaps in the current field, requiring further investigation. Addressing these gaps in future studies is vital to develop a more comprehensive evidence base that will reliably inform programme development and validate the interpretation of results of MBI research in educational settings. These research gaps are presented under thematic headings of Expanding Qualitative Research; Developmental Specificity and Age-Related Effects; Sampling Diverse Populations; Whole-School Approaches; Use of Technology; Mechanisms of Action; Long-Term MBI Effects; and Further Neuroscience Research.

2.8.3.1 Expanding Qualitative Research. Across studies reviewed, there is a call to expand and improve methods of qualitative research in MBIs to capture the lived experiences and opinions of children, teachers and other participants (Duff, 2024; Kempf et al., 2024; Pickerell et al., 2023; Holt et al., 2022). Hutchinson et al. (2018) recommend the collection of qualitative data “as an important complement to outcome research on mindfulness-based programmes” (p. 3936). The underrepresentation of children’s voices in MBI studies is highlighted by Bannirchelvam et al. (2017), while D’Alessandro et al (2022) refer to a “paucity of literature on students’ opinions” (p. 2116) and suggest more inclusive methods to ensure data is collected from all participants. It is recommended that future studies employ more qualitative and mixed-methods approaches, incorporating interviews, classroom observations and other open-ended data collection methods, to capture the lived experiences and perspectives of participants. Doing so would complement statistical measures and ultimately strengthen findings in a research field dominated by quantitative methods.

2.8.3.2 Developmental Specificity and Age-Related Effects. Across the selected meta-analyses and systematic reviews there is a unanimous call for more developmental specificity in research to adapt and evaluate MBIs for specific developmental stages of children and adolescents (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023). Mindfulness programmes and evaluation measures must be customised to match cognitive and emotional capacities of different age ranges. There is a need for future research to target “precise populations rather than a broad-spectrum approach” (Pickerell et al., 2023, p. 1084) to determine which effects are relevant and measurable for each developmental stage.

2.8.3.3 Sampling Diverse Populations. Researchers are encouraged to investigate the impact of MBIs on different youth populations. Study samples should comprise targeted age-ranges, varied student backgrounds, diverse socio-economic demographics and a wide range of school settings. Doing so will increase generalisability with findings more applicable to specific populations, leading to a more inclusive and stronger evidence base (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Hutchinson et al., 2018; Kempf et al., 2024).

2.8.3.4 Whole-School Approaches. Within the reviewed mixed-methods studies, there is a call for future research to investigate the implementation of MBIs in whole-school settings. Inherent in this approach is the expansion of MBIs to a wider school community with the extension of mindfulness beyond the classroom flagged as fundamental to promote student wellbeing (D'Alessandro et al., 2022; Duff, 2024). This wider community spans many areas and includes students, school staff, and involvement of parents to ensure successful integration and ongoing engagement (D'Alessandro et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024). Resulting from their studies on whole-school approaches, Sheinman et al. (2018) recognise the need for “collecting and analysing data using various methodologies and including teachers’ and parents’ perspectives” to better assess the effectiveness of interventions (p. 3326); while Ventura et al. (2023), call for future studies “to investigate how mindfulness tools can be taught as an effective intervention to both students and parents” (p. 19).

2.8.3.5 Use of Technology. With the appeal of technology to children of today, classified as digital natives, Bannirchelvam et al. (2017), suggest using tech-mediated devices to support MBI implementation and practice. They recommend further research “to understand factors that encourage or prevent students from accessing and using applications, ... how and when students use these applications, and the effect of this use on social and emotional wellbeing” (Bannirchelvam et al., 2017, p.19).

2.8.3.6 Mechanisms of Action. A recurring recommendation across studies is the need for more research to investigate the mechanisms of action through which MBIs achieve beneficial outcomes. Future studies must examine which processes (e.g. enhanced attention, emotion regulation, self-compassion, etc.) best achieve positive effects (Hutchinson et al., 2018; D'Alessandro et al., 2022), and the manner in which these processes influence cognitive and emotional growth (Dunning et al., 2019; Holt & Atkinson, 2022).

2.8.3.7 Long-Term MBI Effects. Aligned with research on the mechanisms of action, further longitudinal research studies are recommended to explore the long-term

effects of participation in MBIs and gain insights into how these mechanisms achieve sustained benefits (Kempf et al., 2024). Research should additionally aim to identify the optimal duration of programmes and frequency of practice required to maintain positive effects (Kempf et al., 2024; Sheinman et al., 2018). Such studies will play a major role in informing the future development of MBI programmes and strengthen the evidence base which is mainly populated with short-term studies.

2.8.3.8 Further Neuroscience Research. All studies acknowledge the effects of mindfulness on children's cognitive and developmental processes. Although in its infancy, neuroscience research is now playing a vital role in gaining an understanding of the mechanisms involved. Kander et al. (2024) advocate for the further expansion of “neuroscientific approaches” (p. 17) to explore brain physiological changes in children that are linked to mindfulness training. “Possible changes in attention and emotion regulation from mindfulness training with adolescents and pre-adolescents have been explored from a neuroscience perspective, with a call for further research in this area” (Kaunhoven and Dorjee 2017; Sanger and Dorjee 2015, 2016, as cited in Hutchinson et al., 2018, p. 3936).

To conclude, the collective constraints and challenges outlined, imply that current research on school-based MBIs is often built on foundations that are methodologically weak, context-specific, and with findings and comparisons based on results that are inconsistently measured. Future research must address these recurring shortcomings and adapt more rigorous design frameworks, context-specific studies within diverse populations, and consistent methods of implementation, measure and analysis. Future research must also address the identified research gaps in the current field, in particular the call for more qualitative and mixed-methods approaches to complement findings that to date have been predominantly based on statistical measures. Addressing these considerations is essential for strengthening and advancing the current research field in order to establish a credible evidence base for MBIs in educational settings and inform sustainable mindfulness practice in the everyday school lives of students.

2.8.4 Positioning the Current Study Within the Research Field

The Analysis section of this literature review concludes with the positioning of this current study within the evidence base.

Research gaps identified from the reviewed literature include calls for further research on whole-school implementation of mindfulness; age-related studies to support findings of developmental specificity; an expansion of qualitative research; and exploration of the use of technology to support implementation. This current research

comprising a qualitative-dominant, mixed-methods case study, exploring the outcomes of developing a mindful school through a whole-school community approach, is situated appropriately within these identified gaps and recommendations of the existing literature.

The mindfulness intervention of this research was embedded within the Social and Personal Health Education (SPHE) school curriculum at whole-school level. A specific population of primary school children was targeted with content delivered through 3 mindfulness programmes, piloted and evaluated for use with specific age-levels within a primary school. To support the integration of mindfulness into children's lives beyond the classroom, a community approach was adopted, inclusive of students, school staff and a sample of parents. Using a variety of methods, qualitative data capturing the lived experiences and viewpoints of participants were collected from all children and adult participants. Within a mixed-methods approach, the standardised CAMM (Greco et al., 2011); provided complementary quantitative data of pre- and post-intervention mindfulness measures from the appropriate class levels of 3rd to 6th classes, for which the CAMM is validated. Technology was utilised in the classrooms as a key tool to support delivery of the programmes.

The next chapter sets out the methodological framework underpinning this research. It presents the philosophical assumptions that frame the research along with details of the design, research approach, and methods of data collection and analysis. Research quality is addressed along with ethical concerns.

Chapter 3: Methodology

This chapter opens with a discussion on worldviews, the ontological and epistemological philosophical assumptions, research methodology, and methods, framed by the research paradigm adopted for this study. These terms are discussed through the lens of how the selected ontology of *Relativism* for this study dictated the epistemological assumptions of *Constructivism* and *Subjectivism*, under the worldview of *Pragmatism* which informed the research methodology and methods. The selected methodology of qualitative-dominant, mixed-methods research is defined along with the rationale for its employment in this study. A synopsis is provided of how the extant research literature related to the research topic was identified, with emphasis on the significance of the gap filled by this study. A theoretical lens is identified, and the research problem, research purpose and research question/s are each defined. The employment of a case study research approach is examined along with a description of the research setting, sampling and initial procedures undertaken. An account is given of the multiphase implementation of the project which includes details of design, instrumentation, methods of data collection, data analysis and interpretation. Each of these elements is considered in line with the selected research paradigm and methodology of mixed-methods research (MMR).

Finally, issues of research quality and ethics are discussed. Included in the ethical considerations is an account of how trauma-informed mindfulness practices were integrated into programmes at each level, to ensure safety for all participants.

3.1 Research Paradigm/Worldviews

Guba and Lincoln (1994) define a paradigm as “a basic set of beliefs that guides research action” (1990, p. 17). This view is supported by Morgan (2007) who defines paradigms “as systems of beliefs and practices that influence how researchers select both the questions they study and methods that they use to study them” (p. 49). Research paradigms explain researcher’s beliefs at a philosophical level and how these beliefs influence the way research is conducted. Researchers need to understand and articulate beliefs about the nature of reality, what can be known about reality and how knowledge is obtained (Rehman et al., 2016). A research paradigm, therefore, defines how members of research communities consider the phenomena of research and the methods that should be utilised to study these phenomena (Given, 2008).

The philosophical assumptions discussed below, define different ways of viewing reality and generating knowledge from research. Creswell (2009) refers to this “general philosophical orientation about the world and the nature of research that a researcher brings to a study” (p. 6) as a worldview. Although the landscape of research literature proposes a vast array of such philosophical stances, Creswell (2009), highlights four major worldviews that are widely discussed in the literature: post-positivism, constructivism, transformative and pragmatism as illustrated in Figure 1.

Figure 1:

Elements of Major Philosophical Worldviews (Creswell, 2009, p. 6)

Table 1.1 Four Worldviews	
<p>Postpositivism</p> <ul style="list-style-type: none"> • Determination • Reductionism • Empirical observation and measurement • Theory verification 	<p>Constructivism</p> <ul style="list-style-type: none"> • Understanding • Multiple participant meanings • Social and historical construction • Theory generation
<p>Transformative</p> <ul style="list-style-type: none"> • Political • Power and justice oriented • Collaborative • Change-oriented 	<p>Pragmatism</p> <ul style="list-style-type: none"> • Consequences of actions • Problem-centered • Pluralistic • Real-world practice oriented

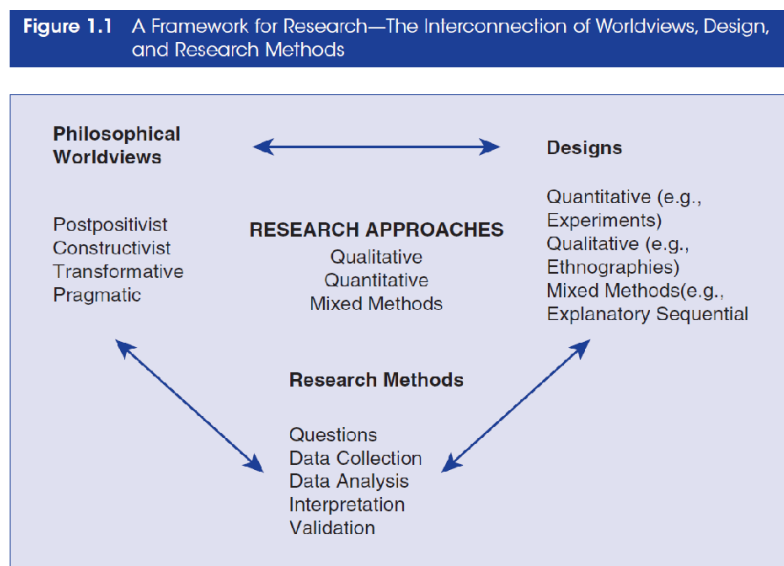
While Figure 1 outlines the fundamental elements of each worldview, a closer look reflects that postpositivist and constructivist research paradigms are situated on a continuum and are anchored at opposing ends (Betzner, 2008). Post-positivism is most often associated with quantitative methods and focuses on precision, generalizability, reliability, and replicability. On the other hand, constructivism is characteristically associated with qualitative methods in which the researcher relies as much as possible on the participants’ views and develops subjective meanings of the phenomena (Creswell & Clark, 2007). Transformative research is conducted with an agenda of reform and empowerment. It is a collaborative approach in which participants are involved at each step of research and is often associated with qualitative methods and rhetoric of advocacy and change (Creswell 2013; Creswell & Clark 2011, as cited in Kaushik & Walsh, 2019). It describes research which has the capacity to promote paradigm shifts and provide a more complete understanding of the universe (Trevors et al., 2012). Finally, pragmatism is a

paradigm that claims to bridge the gap between the scientific method and structuralist orientation of older approaches and the naturalistic methods and freewheeling orientation of newer approaches (Creswell & Clark 2007, as cited in Kaushik & Walsh, 2019).

Creswell (2009) remarks that “worldviews arise based on discipline orientations, student advisors’ or mentors’ inclinations, and past research experiences” (p. 6). Furthermore, Creswell states that the types of beliefs held by individual researchers based on these factors will lead to embracing a qualitative, quantitative, or mixed-methods approach in their research. The interplay and interconnectedness of worldviews, research approaches, research design and research methods are illustrated in Figure 2.

Figure 2

Interconnection of Worldviews, Design and Research Methods (Creswell, 2009, p. 5)



3.1.1 The Research Paradigm/Worldview of Pragmatism

The researcher decided that a pragmatic approach supported by mixed methods of quantitative and qualitative data collection would best fit the study, as “Pragmatism, strives to reconcile both objectivism and subjectivism, facts and values, accurate and rigorous knowledge and different contextualised experiences” (Saunders et al., 2009, p. 142). It is an approach that is ideally suited to this study as pragmatists recognise that there are many ways of interpreting the world; as there may be multiple realities, there are many ways of undertaking research, and no single point of view can ever give the entire picture (Saunders et al., 2009). The decision as to what strategy of inquiry would best suit this study is also centered on the view that socially occurring phenomena such as perceptions are hugely complex, and entirely limiting the research to one strategy of

inquiry alone, could inevitably lead to a partial or mono focal interpretation of what is actually occurring. In other words, there are multiple forms of knowing and also multiple legitimate ways of analysing socially occurring phenomena that are inherent in all humans (Brown, 2013). As Creswell (2009) suggested “individuals preparing a research proposal or plan make explicit the larger philosophical ideas they espouse” (p. 6), the next section expands the philosophical worldview of pragmatism as proposed for this the study and demonstrates how it shaped the mixed-methods methodological approach to the research. The section seeks to define pragmatism and endeavours to explain why pragmatism is generally regarded as the philosophical partner for the mixed-methods approach (Denscombe, 2008).

Pragmatism is a problem-oriented philosophy that takes the view that the best research methods are those that help to answer the research question most effectively. Pragmatism is not committed to any one philosophy or paradigm but rather “inquirers draw liberally from both quantitative and qualitative assumptions when they engage in their research” (Creswell, 2009, p. 10). Within the pragmatist worldview, the focus is on the consequences of research, on the primary importance of the question asked rather than the methods, and on the use of multiple forms of data collection to inform the problems under study. Pragmatism espouses that reality is constantly negotiated, debated or interpreted, and the epistemological stance that knowledge should be examined using whatever tools are best suited to solve the problem (Creswell, 2009). Pragmatist researchers can use multiple methods of data collection to inform the problems under study. Thus, it is pluralistic and oriented towards what works in practice (Creswell and Plano Clark, 2007), as opposed to the metaphysical philosophical stance the researcher takes.

3.1.2 Pragmatism and Mixed-Methods Research

Today, the primary philosophy of mixed-methods research is that of pragmatism (Johnson et al., 2007, p. 113). It is the most frequently identified alternative paradigm on which mixed-methods researchers base their work (Feilzer, 2010, as cited in Doyle et al., 2016). As pragmatists do not see the world as an absolute unity, this worldview allows inquirers to draw from both quantitative and qualitative data. Researchers are free to choose the methods, techniques, and procedures of research that best meet their needs and purposes. Creswell (2009) describes how pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis:

As pragmatists are not committed to any one system of ontology or epistemology, they can draw liberally from both quantitative and qualitative assumptions when they engage in their research and are free to choose the methods, techniques, and procedures of research that best meet their needs and purposes. As pragmatists do not see the world as an absolute unity, in a similar way, mixed-methods researchers look to many approaches for collecting and analyzing data rather than subscribing to only one quantitative or qualitative method. (Creswell, 2009, p. 11)

In giving a voice to participants, reflecting their points of view and ensuring that findings were grounded in participants' experiences, this study sought to look to many approaches for collecting and analysing data rather than subscribing to only one way. The researcher deemed it necessary to draw from both quantitative and qualitative data so that combining the two methods would provide better insight on the problem than either one alone (Creswell, 2015). By subscribing to this pragmatic approach, it was possible to select the methods and procedures of research that would best meet the purpose of the study.

3.2 Exploring Philosophical Assumptions

All research has a philosophical foundation, and inquirers should be aware of assumptions they make about gaining knowledge in their study. Although philosophical ideas remain largely hidden in research, they still “shape the processes of research and the conduct of inquiry” (Creswell & Clark, 2007, p. 34). Creswell further elaborates that researchers need to think through the philosophical worldview assumptions they bring to a study, the research design connected to this worldview, and the specific methods or procedures of research that translate the approach into practice. Therefore, the research paradigm involves the “intersection of philosophy, strategies of inquiry, and specific methods” (Creswell, 2009, p. 5).

The research paradigm incorporates the major dimensions of ontology, epistemology, and methodology and is an all-encompassing system of interrelated practice and thinking that defines the nature of enquiry along these dimensions (Terre Blanche et al., 1999). Although Crotty conflates ontology and epistemology as being mutually dependent, he views these same major dimensions as “distinct hierarchical levels of decision making” (1998, p. 3) within the research design process. This view is upheld by Denzin and Lincoln (2005), who define the paradigm as the researcher’s “net” that holds the ontological, epistemological, and methodological beliefs (p. 183). Creswell (2009) implies that these decision-making elements lead to a research approach which tends to be more quantitative, qualitative or mixed, and is primarily dependent on the researcher’s initial stance towards the nature of knowledge. The next section discusses

how one dimension underpinned, informed, and dictated the other in a continuum to shape the pragmatic research paradigm for this study.

3.2.1 Ontological Beliefs

Ontology refers to beliefs about the form and nature of social reality and is defined as “the study of being”, “the nature of existence”, and the “structure of reality as such” (Crotty, 2003, p. 10). Ontological philosophical assumptions respond to the question “what is there that can be known?” or “what is the nature of reality?” (Guba and Lincoln, 1994, as cited in Ahmed, 2008). Ontology is the beginning of any research after which epistemology, methodology, and methods follow, and a relativist ontology was chosen for this study. Relativists believe in multiple versions of reality constructed from our thoughts – what is real depends on the meaning you attach to truth and “truth does not exist without meaning” (Levers, 2013, p. 2). It is based on the philosophy that reality is constructed within the human mind, such that no one “true” reality exists. Instead, reality is relative, according to how individuals experience it at any given time and place (Moon and Blackman, 2017). As the ontology of relativism is a belief system that adopts situation-based evaluations rather than using absolute principles and is based on the belief that the nature of reality is subjective, it is ideally suited to this study where there is not just one singular measurable truth. This study engages people so there cannot be one truth but multiple truths as “there are as many different realities as there are people” (Levers, 2013, p. 2). Furthermore, adopting a school community approach to the cultivation of mindfulness cannot be researched objectively at a distance from the participants – it must be studied subjectively from within the community and only in consultation with the children, staff and parents participating in the study.

3.2.2 Epistemological Beliefs

Epistemology is concerned with the nature of knowledge and ways of knowing and learning about social reality. It is “a way of understanding and explaining how we know what we know” (Crotty, 2003, p. 3). Looking at the relationship between the knower and the knowledge, epistemological inquiry asks, “how do I know the world?” (Denzin and Lincoln, 2005, p. 183). Epistemology conveys the relationship the researcher has with the research and influences how researchers frame their research in the attempts to discover knowledge. It responds to the questions of how do we get knowledge and how do we discover new things? (Moon and Blackman, 2017).

Three main epistemological stances are identified by Crotty (1998) – objectivism (also known as positivism), constructivism and subjectivism (also known as

interpretivism). Respectively, within research, these epistemological beliefs are dictated and informed by underpinning ontological beliefs: the belief that there is only one objective single reality or truth; the belief that there are multiple realities which we construct through our experiences; and the belief that reality is constantly negotiated or interpreted subjectively.

This study is framed from the epistemological perspectives of both constructivism and subjectivism. A constructivist epistemology contrasts with objectivist epistemology in that it rejects the idea that one objective truth exists. Instead, constructivist theories expound multiple realities and the view that knowledge needs to be interpreted to discover its underlying meaning. “Constructivism postulates that knowledge cannot exist outside our minds; truth is not absolute; and knowledge is not discovered but constructed by individuals based on experiences” (Crotty, 1998, as cited in Yilmaz, 2008, p. 162). This construction arises through individuals or groups making sense of their experiential worlds and humans generating knowledge and meaning through interaction between their experiences and their ideas. Researchers are more likely to use qualitative methods to study multiple realities. A constructivist case study researcher upholds the view that the knowledge is constructed and not discovered. Reality is not an object that is to be found out there; rather it is constructed through the interactions between persons and their social words, hence it has multidimensional perspectives that the researcher aims to understand and build meaning on (Yazan, 2015 as cited in Mishra, 2021).

Subjectivism, on the opposite end of the epistemological continuum to Objectivism, holds the belief that there is no external or objective truth and that knowledge being subjective is “always filtered through the lenses of language, gender, social class, race, and ethnicity” (Denzin & Lincoln, 2005, p. 21). The truth of an external reality is therefore not possible beyond individual reflections and interpretations. As subjective researchers want to access the knowledge of these individual interpretations, they aim to lessen the distance between themselves and the participants to gain a better understanding of the participants’ perceptions of their realities. A subjective epistemology sees all knowledge as personal, subjective and unique (Cohen, et al., 2011). Meaning does not come out of an interplay between subject and object but is imposed on the object by the subject (Crotty, 1998, p. 9). Subjectivism dominates qualitative methodology. It construes interactions between researcher and subjects, (through interviews in particular), in the interpretation of data towards the creation of knowledge. In order to select an appropriate epistemological stance from within the major worldviews and thereby define an appropriate methodological response towards design and research methods, several questions must be answered by a researcher. Crotty (1998) supplies a

range of such questions, each of which implies a profound difference in how we conduct research and present outcomes:

Is there objective truth that we need to identify, and can identify, with precision and certitude? Or are there just humanly fashioned ways of seeing things whose processes we need to explore and which we can only come to understand through a similar process of meaning making? And is this making of meaning a subjective act essentially independent of the object, or do both subject and object contribute to the construction of meaning? (p. 9)

In its exploration of a whole-school community approach to mindfulness, the research questions underpinning this case study do not suggest any one objective truth that needs to be identified. The focus is on the exploration of outcomes which would potentially inform future development of mindfulness interventions within educational settings. As both subject and object will contribute to the construction of meaning there will be many ways of interpreting the multiple realities generated by a large sample of 540 children, school staff and participating parents and therefore no single epistemological perspective could ever tell the full story. The researcher's response to Crotty's questions is that a balance and mix of epistemological subjectivity and objectivity would be required to effectively conduct this research study. Such a mix would therefore require alignment to a worldview that would embrace a plurality of assumptions and methods (Greene, 2007).

3.3 Mixed-Methods Research (MMR) Methodology

This section aims to define mixed-methods research; provide a rationale for the use of mixed-methods research in this study; outline the mixed-methods research approach of the study; and discuss the challenges of this approach.

3.3.1 Defining Mixed-Methods Research

Mixed-Methods Research (MMR) or Mixed Research is an emerging research methodology in the social and health sciences that involves combining statistical trends and stories to study human and social problems and "is now recognised as the third major research approach or research paradigm" (Johnson et al., 2007, p. 112). Although combining quantitative and qualitative approaches within research has a long-standing history (Rallis & Rossman, 2003), there continues to be significant debate about what constitutes mixed-methods research, with the concept of mixed-methods research defined in several ways.

Mixed-methods research is an approach to knowledge that attempts to consider multiple viewpoints, perspectives, positions, and standpoints (Johnson et al., 2007) and is defined by Creswell (2009) as a methodology in which the researcher collects, analyses

and interprets both quantitative and qualitative data, integrates the two approaches in various ways and frames the study within a specific design. The qualitative and quantitative viewpoints, along with their inference techniques are employed “for the broad purposes of breadth and depth of understanding and corroboration” (Johnson et al., 2007, p. 123). The core assumption underpinning mixed-methods research is that when an investigator combines statistical trends and stories, it provides a better understanding of the problem than either statistical trends or stories alone and merging the two methods will provide better insight on the problem than either one alone (Creswell, 2015).

Following an online discussion and analysis of mixed-methods research with several leaders in the field, Johnson et al. (2007) provide a summary definition of key responses made by these leaders, some of which are articulated as follows:

Mixed methods or multimethod research or inquiry ... is a research methodology in which the researcher collects, analyzes, and mixes both quantitative and qualitative data in a single study or a multiphase program of inquiry (Creswell); ...is when different approaches or methods are used in parallel or sequence but are not integrated until inferences are being made (Bazeley); ...is one that juxtaposes or combines methods of different types (qualitative and quantitative) to provide a more elaborated understanding of the phenomenon of interest to gain greater confidence in the conclusions generated by the evaluation study (Caracelli); ... is a systematic integration of quantitative and qualitative methods in a single study for purposes of obtaining a fuller picture and deeper understanding of a phenomenon (Huey Chen); ... is inquiring into a question using different data sources and design elements in such a way as to bring different perspectives to bear in the inquiry and therefore support triangulation of the findings. (Johnson et al., 2007, pp. 119 - 120)

To summarise, as evident in Figure 3, mixed-methods data collection involves gathering both numeric information (e.g. on instruments) as well as text information (e.g. on interviews) so that the final database represents both quantitative and qualitative information (Creswell, 2009).

Figure 3

Quantitative, Mixed and Qualitative Methods (Creswell, 2009, p.17)

Table 1.3 Quantitative, Mixed, and Qualitative Methods		
Quantitative Methods	Mixed Methods	Qualitative Methods
<ul style="list-style-type: none"> • Pre-determined • Instrument based questions • Performance data, attitude data, observational data, and census data • Statistical analysis • Statistical interpretation 	<ul style="list-style-type: none"> • Both pre-determined and emerging methods • Both open- and closed-ended questions • Multiple forms of data drawing on all possibilities • Statistical and text analysis • Across databases interpretation 	<ul style="list-style-type: none"> • Emerging methods • Open-ended questions • Interview data, observation data, document data, and audio-visual data • Text and image analysis • Themes, patterns interpretation

3.3.2 Rationale for Mixed-Methods in the Research Study

While Guba and Lincoln (1994) note that “both qualitative and quantitative methods may be used appropriately with any research paradigm” (p. 105, as cited in Johnson et al., 2007), it is critically important that the research questions are appropriate for a mixed-methods design. Creswell (2009) concurs with this view when he states that there is a need for mixed-methods researchers to be explicit about the add-on value of their design. The fundamental purpose of mixed-methods research is not merely that of collecting both types of data for the sake of collecting both types of data. It also involves the use of both approaches in tandem so that the overall strength of a study is greater than either qualitative or quantitative research (Creswell & Plano-Clark, 2007).

One of the most common purposes identified by researchers as a rationale for mixed-methods research is that of triangulation. Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is thereby greatly reduced, and combinations are used to enable confirmation or corroboration of each. Research is interpretive, and we face a multiplicity of methods that are suitable for different kinds of understandings. The traditional means of coming to grips with one’s identity as a researcher by aligning oneself with a particular set of methods (or being defined in one’s department as a student of “qualitative” or “quantitative” methods) is no longer very useful (Johnson et al., 2007, p. 210).

In conclusion, as a rationale for the employment of mixed methods in this research study, the researcher believed that the combination of qualitative and quantitative research components expanded and strengthened the study's conclusions.

3.3.3 Selection of Multiphase Mixed-Methods Design for this Research Study

To secure a research design that would ensure feasibility and 'best fit' for the research topic, problem, and question(s), it was necessary to explore a range of mixed-methods designs to ascertain their strengths and limitations. The basic designs of explanatory sequential and exploratory sequential (Creswell, 2009) were initially considered but as priority was not given to the collection and analysis of quantitative data (explanatory) or qualitative data (exploratory), these designs were rejected as unsuitable for the study. Convergent design was also explored but as convergent design gives equal priority to the collection and analysis of quantitative and qualitative data, this design was deemed unsuitable.

Finally, a decision was made to follow a multiphase, mixed-methods design implemented within two phases. This was based on the following criteria: a multiphase mixed-methods design is common in the fields of programme interventions; multiphase offered flexibility to the researcher by allowing her to learn from the implementation of Phase 1 and adapt the implementation of Phase 2 if adjustments were required from issues arising; working separately with upper and lower schools, the integrated study findings would be more readily translated into evidence-based practices, benefiting educators and policy makers.

The selected model of multiphase, mixed-methods research offered a comprehensive and robust approach to explore the multi-faceted nature of this project. See Table 4 for overview of multiphase design.

Table 4

Implementation Overview of Multiphase, Mixed-Methods Design

A Whole-School Community Approach to Mindfulness in a Primary School Setting

An exploratory, multiphase, mixed-methods case study

PHASE 1

September 2017 to June 2018

UPPER SCHOOL

Mindfulness classes
with 3rd to 6th
+
School staff
(SNAs, Teachers, Administrative staff)
+
Inclusion of a sample of parents through two
separate 8-week evening classes.

PHASE 2

September 2018 to June 2019

LOWER SCHOOL

Mindfulness classes
with Junior Infants to 3rd
+
School staff
(Teachers)

Implementation:

Across a two-year period, 540 children participated in an age-appropriate 8-week mindfulness course in their classroom as part of the school's SPHE programme.
(6th class: 10-week programme)

Adult Participants:

Year 1:

SNAs; Administrative Staff; and Parents

All SNAs and administrative staff attended an 8-week mindfulness course after school hours.
2 X 8-week evening classes were held for parents who wished to attend.

Years 1 and 2

Teaching Staff:

Across both years, teachers were given the opportunity of attending drop-in mindfulness sessions during the school's "Croke Park" hours unless the hours were otherwise scheduled by the principal.

As this study employed mixed-methods research, quantitative and qualitative data were collected. Methods and procedures of data collection, data analysis and data weighting which translated this approach into practice will be outlined later in this chapter within the section on Research Design and Methods.

3.3.4 Challenges Related to the Use of Mixed-Methods Research

A common challenge when conducting mixed-methods research is the arising of divergent findings. Ivankova (2014) contends that researchers must acknowledge and attempt to address any inconsistencies where there are divergent findings between different sets of data in order that the quality of the research study will not be affected

adversely. Fetters et al. (2013) suggest that it may be appropriate to resolve a discrepancy within divergent findings by collecting additional data. While conflicting findings might pose a challenge in this study, this would not be evident until the completion of data analysis. As the data gathering period extended over a limited timeframe within the school, the collection of any further data was not possible.

A core methodological issue articulated by Tashakkori and Teddlie (2012) focuses on the concern that many mixed-methods researchers are not properly trained in either qualitative or quantitative methods. "To prevent QUAN-light descriptive type statistics or QUAL-light research, it is essential that mixed-methods researchers need to be methodologically bilingual" (p. 777). As a developing researcher in mixed-methods research, and in order to enhance competency, this researcher undertook training in three separate courses on qualitative, quantitative and mixed-research methods. Additionally, training was acquired in the use of SPSS software towards efficient analysis of quantitative data.

An additional challenge to mixed-methods research raised by Tashakkori and Teddlie (2012), concerns an overreliance on prescriptive mixed-methods designs used to integrate qualitative and quantitative techniques (p. 778). To alleviate this methodological concern, the researcher explored the basic mixed-methods designs of explanatory sequential, exploratory sequential and convergent before examining more advanced designs and selecting a multiphase design as the 'best fit' for this research.

3.4 Methodological Review of the Literature

In this research study, a comprehensive literature review laid the foundations for contextualising the research, by appraising, synthesising, and critically analysing relevant literature with the intention of informing the research design and contributing new knowledge to the field. Although the literature on mindfulness interventions with youth is relatively new, a growing body of research offers evidence for the efficacy for MBIs with children and young people.

As part of the review, a core understanding of the concept of mindfulness and in particular the development of secular mindfulness programmes for use with children and young people in school settings, was presented as foundational to the study.

As this research adopts a qualitative-dominant, mixed-methods case-study approach to explore a whole-school implementation of mindfulness in a primary school setting, the focus of the literature review was to identify peer-reviewed literature related to meta-analyses of MBIs in educational settings; single study MBIs conducted with primary-

age children in their classrooms; studies implementing a whole-school approach at primary level; and MBI studies employing qualitative and mixed-methods approaches.

A variety of methodological approaches were explored to present a structured process for the analysis of research literature, and the four-stage sequential SALSA framework (Search, Appraisal, Synthesis and Analysis) as proposed by Grant and Booth (2009) was selected as the most suitable. This framework guided the process in a stage-by-stage manner, allowing for a comprehensive and critical examination of a relevant body of literature on MBIs in school settings.

3.5 Theoretical lens(es)

Since 2010, a number of published meta-analyses document the current global state of research in mindfulness initiatives with children and adolescents (Burke, 2010; Dunning et al., 2019; Felver et al., 2016; Greenberg & Harris, 2012; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023; Rempel, 2012; Weare 2013; Zenner et al., 2014; Zoogman et al., 2015). These analyses examine mindfulness studies with children from 3 to 18 years of age in clinical treatment settings, and more recently, in school-based programmes. The results of these studies provide the main theoretical lens for this study: the enhancement of wellbeing through school-based MBIs, particularly when implemented at whole-school level.

3.5.1 Correlation between Mindfulness and Wellbeing

A main theoretical lens for this study is an evidence-based correlation between the practice of mindfulness with children and young people and benefits for wellbeing. In earlier research, a sample of findings from 20 school-related studies, predominantly conducted with primary school children, concludes that MBIs with children and young people represent a promising emerging approach to enhancing wellbeing in children and young people (Weare, 2013). Although still considered to be in its infancy, research in the field has progressed considerably with many more recent studies focusing on developmental specificity and age-related effects including the exploration of the mechanisms of change related to beneficial outcomes. Recent meta-analyses present a very positive picture of modest but significant gains in outcomes of emotion regulation, positive behaviour, coping strategies, and many other areas related to cognitive and emotional wellbeing (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023).

3.5.2 Teaching Children Mindfulness in a Community Setting

A second theoretical lens for this study is the concept of educating the child in the development of mindfulness within a whole-school community setting. Many mindfulness research studies conducted to date have worked with small samples of children in schools and clinical settings, in isolation from their families and community. Others are conducted with single classes in school, isolated from the school community. In contrast, this research employs a whole-school approach to developing mindfulness skills, with a large sample of children, parents and school staff, in a supportive community environment where there is a shared understanding of the language of mindfulness and its practice.

The conceptualisation of a mindful school community is reflected in the work of Mind and Life Education Research Network (MLERN), a US based non-profit network organisation formed in 2006 to create a multidisciplinary intellectual forum dedicated to exploring issues at the intersection of mind, brain, education, and contemplative practice:

A mindful school community can be conceptualized as having four features (1) mindful school leadership that includes a developmental vision of the school, the creation of a school-wide professional learning community (PLC), and instructional leadership; (2) mindful school cultures for educators, which emphasize trusting relationships, collective instructional improvement, and a mastery-goal, improvement-focused school culture for teaching; (3) mindful classroom cultures for students, which emphasize trusting relationships, collaborative learning, and a mastery-goal, improvement-focused classroom culture for learning; and (4) the offering of school-based MBIs, which aim to directly teach educators and students mindfulness skills and dispositions that allow them to co-create, contribute to and sustain such a mindful and caring school community. (MLERN, 2012, as cited in Roeser, 2014, p. 407)

The work of Weare (2015) within The UK Partnership for Wellbeing and Mental Health in Schools, provides clear evidence that engaging whole communities of parents, care-givers and families in whole-school implementation of mindfulness improves outcomes in social and emotional wellbeing, serving as an antidote to tackling the current mental health crisis in young people. "Whole school" refers to a multi-component approach, which encompasses and mobilises the totality of the school experience, to promote wellbeing and address mental health issues (p. 5).

3.6 Research Problem Statement

In 2018, it was reported that mental health problems cost the Irish economy over €8.2 billion annually. At that time, Ireland had one of the highest rates of mental health illness in Europe, ranking joint third out of the 36 countries surveyed in the annual *Health at a Glance* report. (OECD/EU, 2018). Some 18.5% of the Irish population was recorded

as having a mental health disorder, such as anxiety, bipolar, schizophrenia, depression, or alcohol or drug use. Rates of depression were also well above the European average for both men and women in Ireland. A more recent OECD report, *Ireland: Country health profile 2023, State of Health in the EU* continues to indicate a downward trend with anxiety (7.6%); depressive disorders (5.0%); and alcohol and drug-use disorders (4.7%); among the most prevalent conditions in society OECD (2023).

The continuing rise in these alarming figures is reflected in the budget allocation in Ireland for mental health services. Since 2020, funding for mental health has increased by nearly 44% with an increase of €143.5 million in just one year from Budget 2024 to a total of €1.5 billion in Budget 2025 (Department of Health, 2024).

The problem statement for this study is defined by the growing evidence that young people both in Ireland and globally are currently in the grip of a mental health crisis (OECD, 2025), with limited programmes, school-based or otherwise, to mitigate the crisis.

3.7 Research Purpose Statement

In terms of medical research, mindfulness is now recommended as a treatment for recurrent depression, with patients in the UK able to access a mindfulness course on the National Health Service (NHS) on the recommendation of a doctor. In Ireland, with a €1.5 billion mental health allocation in Budget 2025 (Department of Health, 2024), this provides a prompt opportunity for research and funding to engage children and young people in practices such as mindfulness to support them in their abilities to navigate daily stresses, anxieties, and difficulties as they arise.

3.8 Research Question/s

As outlined in the Introduction, this exploratory mixed-methods case study aims to explore the outcomes for participating children, of a whole-school-community-based MBI. Although the exploration is open-ended, it is underpinned by three key research questions. If children engage in a mindfulness course in their classroom as part of a whole-school MBI: (1) What are the associated outcomes for participating children? (2) Will children engage in independent mindfulness practice beyond the classroom? (3) Will engagement in an 8-week mindfulness course impact children's CAMM (Greco et al., 2011) post-intervention mindfulness measure when compared with their pre-intervention measure?

In conclusion, while the exploratory nature of the research does not ask a direct question, or aim to test any predetermined hypothesis, it is anticipated that the findings

will go some way to address these sub-questions to support the wellbeing of children within the wider community of their school.

3.9 Research Approach

This section discusses the selected research approach of a case study. With reference to literature from experts in the field, a comprehensive definition of a case study is provided with an outline of its distinctive characteristics. The rationale for adopting the approach of a case study as the 'best fit' for this study is articulated. Finally, advantages and limitations of the case study are examined along with the methods employed by the researcher to mitigate limitations.

3.9.1 Definition and Characteristics of a Case Study

A case study is a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a programme, event, activity or process. The study involves a specific subject, such as a person, group, place, event, organization, or phenomenon.

Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1995; Yin, 2009, 2012, as cited in Creswell, 2009, p. 14). A certain confusion surrounds case studies in that the process of conducting a case study is conflated with both the unit of study (the case) and the product of this type of research. Yin (2008) defines case study in terms of the research process while Stake (1995) focuses on trying to pinpoint the unit of study – i.e. the case. On the other hand, Wolcott (1992) sees it as “an end-product of field-orientated research’ rather than a strategy or method” (as cited in Merriam, 2009, p. 40).

Although Stake (1995) states that case study research is not a methodology but a choice of what is to be studied (i.e. a case within a bounded system), others present it as a strategy of inquiry, a methodology, or a comprehensive research strategy (Denzin & Lincoln, 2005; Merriam, 1998; Yin, 2003, as cited in Creswell, 2009). The focus is on a case (which is interpreted very widely to include the story of an individual person, a group, a setting, an organisation, etc.) in its own right, taking its context into account.

In investigating a contemporary phenomenon within its real-life context, it aims to illuminate how things are taking place and why (Yin, 2014). A case study provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply presenting them with abstract theories or principles. This allows

case studies to penetrate situations in ways that are not always susceptible to numerical analysis (Cohen et al., 2011).

The case study approach involves an empirical investigation of a contemporary phenomenon within its real-life context using multiple sources of evidence such as interviews, document reviews, archival records, direct participant observations and subsequently 'thick descriptions' of the phenomena under study (Yin, 2014). The encouragement of multiple methods captures the complex reality under scrutiny. In parallel, the multiple sources of data facilitate the validation of data through triangulation (Denscombe, 2008).

3.9.2 Types of Case Study

Extant literature describes a wide variety of case study type and as the selection of an appropriate type was of paramount importance to ensure efficacy, it was necessary to explore a number of types with possible potential for this study. This discussion disregards those used primarily in health and other settings and focuses on four main types appropriate for educational settings. These encompass intrinsic, explanatory, descriptive, and exploratory designs.

3.9.2.1 Intrinsic. Stake explains intrinsic case as: "We are interested in it (the case), not because by studying it we learn about other cases or about some general problems, but because we need to learn about the particular case. We have intrinsic interest in the case, and we may call our work intrinsic case study" (Stake, 1995, p. 3, as cited in Mishra, 2021). In simple terms, the approach is used when the researcher wishes to understand what is going on within that single case. While the researcher had a very specific interest in the exploration of a whole-school community approach to mindfulness with primary school children, an intrinsic study design would have too narrow a focus which would limit broader applicability and generalisation of findings in the future.

3.9.2.2 Explanatory. An explanatory case study aims to understand the underlying causes, mechanisms and relationships within a specific phenomenon. It seeks to link an event with its effect, establish causality and explain why something is the way it is (Yin, 2014). It strives to uncover the 'why' and 'how' behind a research hypothesis or question with collected data examined to identify patterns, trends, and causal links. The results of explanatory reports are definitive, and there is little room for interpretation. As this study was not underpinned by a hypothesis or research question requiring explanation, following a study of its characteristics, explanatory type was not a considered option for the study.

3.9.2.3 Descriptive. Descriptive case studies involve an in-depth examination of a single or small number of subjects, aiming to provide a rich and comprehensive understanding of a phenomenon within its real-life context (Yin, 2014). In descriptive case studies, researchers gather and analyse data from various sources to create a detailed representation of the subject of interest (Stake, 1995). However, as descriptive studies often rely heavily on narrative accounts with subjective interpretation (Merriam, 1998), there is a great potential for bias affecting the reliability of the findings. As such, this did not align with the research aims of this study and was not deemed a suitable approach.

3.9.2.4 Exploratory. While a descriptive case study aims to provide an in-depth understanding of a specific phenomenon, an exploratory study is driven by a more open-ended and iterative process, uncovering new insights, and seeking to generate new theories and hypotheses (Yin, 2014). Exploratory suggests the beginning of an investigation and as such, exploratory cases act as the starting point of studies. An exploratory case is usually conducted as a precursor to larger-scale investigations. It is used to develop an initial understanding of a programme or phenomenon. The focus is on discovery, with the research often outlining the need for further studies and investigations.

3.9.3 Rationale for Use of a Case Study

Following an in-depth study of relevant research literature, the case study was deemed to be the most suitable approach for this research study for a variety of reasons. Table 5 outlines a rationale for the selection of the case study as the best-fit approach by mapping this study against pertinent characteristics of case study literature.

Table 5*Rationale for a Case Study Approach*

Case Study Research Literature	... as mapped to this research study
Case studies can be undertaken by a single researcher without needing a full research team (Nisbett and Watt, as cited in Cohen et al., 2011).	This study is single authored with the researcher conducting all aspects of the research. This ensured a cohesive and consistent approach, expedited decision making and minimised difficulties that might arise from varying viewpoints.
The case study allows a focus on just one example. This might be the researcher's place of work, or another institution or organisation, with which they have a connection (Blaxter, Hughes & Tight, 2001).	This research took place in a large co-educational Irish primary school. The researcher was aware of a pioneering ethos in the school where staff were always open to exploring and piloting new initiatives.
Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Creswell, 2009).	This case was bounded by a timeframe. The intervention was conducted on one day a week throughout the entire school year, over a 2-year period from September 2017 to June 2019. Classes for staff and parents, held outside of school hours, were also held during that timeframe.
The method of inquiry is empirical, founded on observation and experience rather than being overtly based on theory. In investigating a phenomenon within its real-life context, it aims to illuminate how things are taking place and why (Yin, 2014).	While pre- and post-intervention quantitative surveys were administered to children in 3 rd to 6 th classes, a qualitative-dominant, mixed-methods approach was the chosen methodology. This allowed for the rich data of participants' real-life, first-hand experiences to take centre stage within data analysis and interpretation.
A case study provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply presenting them with abstract theories or principles (Cohen et al., 2011).	All aspects of the research were conducted in the school with children in their own classrooms along with their teachers and SNAs as part of the school's SPHE programme ... a unique example of real people in a real situation.
A case study penetrates situations in ways that are not always susceptible to numerical analysis (Cohen et al., 2011).	While numerical analysis relies on statistical methods of measuring data, aspects of this research programme involving motivation, participation, self-regulation of emotions, etc., are difficult if not sometimes impossible to quantify through number. A qualitative-dominant mixed-methods approach overcame this obstacle.
The case study uses multiple sources of evidence such as interviews, document reviews, archival records, direct and participant observations and subsequently 'thick descriptions' of the phenomena under study (Yin, 2014).	Yin's reference to 'thick descriptions' emphasises capturing the context, meaning and nuances of the case being researched. 'Thick descriptions' of the phenomena in this study were provided through quantitative surveys supplemented with qualitative data of participants' experiences gathered through observation, field notes, discussions and recorded and written group exit interviews.

Case Study Research Literature

A case study is the study of a specific instance that is frequently designed to illustrate a more general principle (Nisbett & Watt, as cited in Cohen et al., 2011).

... as mapped to this research study

This case study aims to reveal insights in the context of mindfulness as a whole-school community approach. It is hoped that the study will not be in isolation but through a comprehensive understanding of the specific case will contribute to the generalisability of knowledge when applied to school society in general.

This outlined rationale affirms the capacity of the case study to emphasise relationships and processes rather than outcomes and end products; a holistic view rather than isolated factors; natural settings rather than artificial settings; multiple sources rather than one source or method (Denscombe, 2003). It allows for a comprehensive exploration of the complex topic under investigation, providing contextual insights that might be difficult to capture with other approaches and offering a meaningful contribution to the broader body of knowledge in the field.

3.9.4 Strengths and Advantages of a Case Study

The case study offers numerous strengths and advantages that make it a valuable methodological approach. As a great many strengths and advantages have already been outlined within the rationale for the selection of a case study approach, this section focuses on additional key strengths of specific relevance to this study. It is a particularly suitable approach in situations where the researcher has limited control over events in that it allows the researcher to build in unanticipated events and uncontrolled variables. Because the case study is concerned with investigating phenomena as they naturally occur, there is no demand on the researcher to impose controls or to change any circumstances (Denscombe, 2003). This was particularly relevant in this study where the researcher worked directly in a classroom environment in a school over a 2-year timeframe. As a guest of the school, it was necessary to be able to 'fall in line' with the school's ethos, changing timetables, changes to the approach of the school's SPHE programme, etc. The approach of a case study afforded this multiphase, study to be adapted to work with unanticipated events and uncontrolled variables as they arose.

As a case study allows for a variety of research methods and encourages the use of multiple methods to capture the complex reality under scrutiny, the combination and integration of both quantitative and qualitative data adds to the reliability of the study. The use of multiple data sources, such as interviews, observations, and documents, enhances the credibility of findings (Merriam, 2009) which in turn, facilitates the validation of data through triangulation (Denscombe, 2003).

Case studies are adept at studying processes over time, aiding longitudinal research design (George & Bennett, 2005), and findings from case studies often have direct implications for real-world practice and decision-making (Stake, 1995). In this study, observing and documenting these processes in an exploratory manner, allowed for potential impact on the school policy in the areas of SPHE and wellbeing. By examining the development and progression of the intervention and its outcomes, this case study can offer invaluable insights and possibly paves the way for further studies at whole-school community level or within the broader educational landscape at national level.

3.9.5 Limitations of A Case Study

Despite their many advantages, case studies are not exempt from limitations that warrant careful consideration. These limitations highlight the need for researchers to be cautious in their design, execution, and interpretation. Recognizing these constraints is essential for producing valid and robust research. A main limitation is that the subjective nature of case study research can lead to researcher bias, influencing the interpretation of findings. Creswell (2009) emphasises that a researcher's personal beliefs, values and preconceptions can inadvertently influence the research process and outcomes. This bias can manifest in many ways, particularly throughout the processes of data collection and analysis and within the interpretation of results. This view is echoed by Nisbet & Watts (1984) who emphasise that case studies are not easily open to cross-checking, may be selective, biased, personal, and subjective, and despite attempts to address reflexivity, may still be prone to observer bias. Taking this viewpoint on board, every attempt was made throughout this study to acknowledge possible researcher bias and continually engage with the practice of reflexivity towards alleviating possible bias and ensuring a balanced outcome.

Denscombe (2003) states that the point at which a case study is most vulnerable to criticism is in relation to the credibility of generalisations made from its findings. He adds that case studies are often perceived as producing "soft" data and thereby lack the degree of rigour expected of social science research, thus contributing to their findings not being transferable. This view is supported by Nisbet & Watts (1984) who maintain that results may not be generalisable except where other readers or researchers see their application. Yin (2014) adds that a single case study's limited scope and contextual specificity can hinder the applicability of its conclusions to broader populations or contexts.

Every effort was made to moderate a lack of generalisability of findings from this research study through detailed descriptions of the context, participants, methodology and

overall design of the study. This enhances the potential for assessment of its relevance to other contexts. Additionally, a clear rationale for the significance of the study supports the applicability of results to different settings. Furthermore, while data was not triangulated, the integration of qualitative and quantitative data increased the robustness of the study and its findings.

In conclusion, while limitations of a case study are clearly acknowledged, their impact in this research study is mitigated through robust design and methods, allowing advantages and strengths to outweigh disadvantages and limitations. The synergy between a case study and the design of this particular study determined that an exploratory, multiphase case study would provide an ideal framework for the research approach, allowing the researcher “to concentrate on a specific instance or situation and to identify, or attempt to identify, the various interactive processes at work” (Bell, 2005, p. 8).

3.10 Research Design and Methods

A research design is an action plan for getting from *here* to *there*, where *here* may be defined as the initial set of questions to be answered and *there* is some set of (conclusions) answers (Yin, 2014). According to Trochim (2006), the research design provides the glue that holds the research project together and the design is used to structure and guide the researcher into showing how all the major parts of the research project work in unison to try and address the central research question/s. The ultimate success of a research study crucially depends on a well-designed structure in response to the questions posed (Lankshear, 2004).

This section provides an overview of the research design and methods and outlines setting; sampling; initial procedures; implementation; mindfulness programmes used; data collection and analysis; integration of data; research validity and reliability, and ethical considerations.

3.10.1 Setting

This research study took place in a large co-educational primary school in a suburban setting in Ireland with a total of 540 children in 21 classes, ranging from Junior Infants to 6th class. School staff comprised the school principal, 28 teachers, 7 Special Needs Assistants (SNAs), 2 administrative staff and 1 caretaker. Along with any parents who wished to engage with the study, all were invited to participate in the programme.

3.10.2 Sampling

The target population for this whole-school study was extended to all members of the school community, including the school principal, children, teaching staff, SNAs, administrative staff, parents of children at the school, and the school caretaker. Due to the nature of a case study approach, sampling was not considered relevant or appropriate. All children in the school were given the opportunity to participate in the study. Two families within the school requested that their children would not participate. All other children participated. All SNA's, administrative staff members and the caretaker were invited to attend a manualised 8-week mindfulness course delivered on the school premises after school hours. All SNAs and administrative staff attended. The caretaker attended if and when his schedule allowed it. Twenty-eight teachers were invited to attend fortnightly "drop-in" mindfulness sessions as part of the school's scheduled "Croke Park" hours over a 2-year period. Teachers came and went from these sessions according to their schedules, other school commitments and personal choice. Parents of children from 3rd to 6th classes were given an opportunity to participate in one of two 8-week mindfulness courses delivered as evening classes in the school during Phase 1. A total of 32 parents attended. All course participants were given the opportunity to participate in the research. The final sample comprised the school principal, 28 teachers, 7 SNAs, 540 children, 2 administrative staff, the school caretaker and 32 parents who attended an evening course. ($N = 611$)

3.10.3 Initial Procedures

Initial procedures prior to the commencement of the research project consisted of:

- Applying for and receiving approval for the study from DCU REC. Approval was received from the REC in June 2017 (REC Reference: DCUREC/2017/109) (see Appendix C: p. 24).
- Initial meetings with the school principal to formalise the content of the project during June 2017.
- Acquiring formal permission from the school principal for the project in September 2017 (see Appendix D: p. 25).
- Acquiring formal permission from the Board of Management of the school for the project in September 2017 (see Appendix E: p. 26).
- Acquiring permission from parents and children through letters of consent and plain language statements in September 2017 (see Appendix F: pp. 27-29 for samples differentiated by age).

- Development of timetable in the school setting with the principal and school staff for implementation plan over 2 phases:
Phase 1 implementation: September 2017 to June 2018
Working with staff, parents, and upper school from 3rd to 6th classes.
Phase 2 implementation: September 2018 to June 2019
Working with staff and lower school from Infants to 3rd classes.
(Documented in Table 4)
- Pre-course assessment measures of mindfulness (CAMM; Greco et al., 2011) with children from 3rd to 6th classes. Measures were taken before commencement of the courses for these children in Phase 1.

3.10.4 Implementation

Using a staggered rota over a period of 22 months, within two delivery phases, each class in the school participated in a mindfulness course delivered in their classroom by the researcher using the age-appropriate manualised programmes outlined below. Courses ranged in length from 8 to 10 weeks with a delivery time of one hour weekly. An additional final session was added to each programme for a recorded semi-structured group exit interview. While questions were formulated as a basis for the children's exit interviews (see Appendix G: p. 30), the focus was on hearing the children's stories and the researcher allowed the children's voices to lead a lot of the discussions. Participating adults completed written exit surveys (see Appendix H: p. 31).

The teacher's classroom laptop, linked to a data projector and screen, was utilised for the delivery of the programmes in each class. Programme resources used were left securely on the teacher's classroom laptop for optional use in the class during the week.

3.10.5 Mindfulness Programmes Used

The study employed manualised, evaluated mindfulness programmes from the UK based Mindfulness in Schools Project (MiSP) developed for mainstream use with teachers, parents and children <https://mindfulnessinschools.org> and from the US based Mindful Schools Programme <https://www.mindfulschools.org>. (an organisation which closed in 2024). The researcher had completed extensive teacher training in the delivery of all of these programmes.

3.10.5.1 Programme for 6th Class: .b

<https://mindfulnessinschools.org/teach-dot-b/>

.b, pronounced [dot-be] is the UK's leading mindfulness curriculum for 11-18 year olds in schools. .b stands for 'stop and be', a simple practice at the heart of this

10-lesson course.

(See Appendix I: p. 32 for .b course outline).

Timeframe: Completed during Phase 1: September 2017 to June 2018

Supplementary Activities and Resources for .b programme:

YouTube videos utilised to explain the neuroscience behind the practices of Mindfulness, Gratitude and Kindness; posters created for children's bedroom walls.

3.10.5.2 Programme for 2nd to 5th Classes: Paws b

<https://mindfulnessinschools.org/teach-paws-b/>

Paws b [pause be] is a leading mindfulness curriculum for children aged 7 -11 in schools and was initially developed in collaboration with experienced primary school teachers at Pen y Bryn school and senior mindfulness teachers and researchers at the Centre for Mindfulness Research and Practice at Bangor University in Wales.

(See Appendix J: pp. 33-34 for Paws b course outline).

Timeframe: 3rd to 5th class courses completed during Phase 1: September 2017 to June 2018. 2nd classes (who would progress to 3rd) completed during Phase 2.

Supplementary Activities and Resources for Paws b programme:

Posters of breathing exercises were created by the researcher for children's bedroom walls

Artefacts created: Worry box; calming glitter bottle.

3.10.5.3 Programme for Junior Infants, Senior Infants and 1st Classes:

Mindful Schools (URL no longer available due to closure in 2024)

The programme for younger children was from the syllabus of Mindful Schools in the US – an organisation which closed its doors in 2024.

(See Appendix K: p. 35 for course outline).

Timeframe: Programmes for Infant and 1st classes were completed during Phase 2: September 2018 to June 2019.

Supplementary Activities and Resources for Mindful Schools programme:

Stories on kindness and worries, calming glitter bottle, worry box and breathing posters for children's bedrooms.

3.10.5.4 Programme for Adults: (Teachers; SNAs; Parents): .b Foundations

<https://mindfulnessinschools.org/b-foundations/>

.b Foundations is an 8-week introductory course for teachers, teaching support staff, administrative and site staff, peripatetic support, parents and governors,

taught in group sessions of approximately 90 minutes per week.

(See Appendix L: p. 36 for course outline).

Timeframe: Adult courses were delivered during Phase 1: September 2017 to June 2018.

All SNAs and administrative staff at the school attended the *MiSP .b Foundations* course weekly after school hours. Parents of children from 3rd to 6th who were attending mindfulness classes were offered group training in a staggered rota to coincide with their child's training programme. This training was offered at night using the *MiSP .b Foundations* programme, adapted for parents. Over 2 X 8-week courses, a total of 32 parents attended.

Supplementary Activities: As the researcher is a qualified teacher of the Mindfulness Based Stress Reduction (MBSR) programme, appropriate practices from MBSR were integrated into this course: Awareness of Body and Breath; Body Scan; Mindful Eating; Mindful Movement.

3.10.6 Teachers

At the onset of this study, following a consultation with the school principal, it was decided that teachers would have the option of attending a mindfulness session during the school's scheduled "Croke Park" hours fortnightly. These sessions would not take the format of a structured course but could be attended as 'drop-in' sessions. For this reason, it was decided with the principal that data would not be collected from teaching staff. Due to the immense pressures on teachers to use "Croke Park" hours to come together for planning and preparation, teachers came and went from these classes as circumstances allowed. Teachers were very much part of the overall programme, remaining present in the classrooms for the children's courses and often participating in mindfulness exercises and activities with the children.

3.10.7 Blog

To support practice, a blog was created by the researcher for class resources that could be used by class teachers and parents to support practice. However, shortly after the commencement of the programme, the school network security was upgraded and the new level of security prohibited access to online blogs. Use of the blog for classroom use was abandoned at this point, but many parents used it to support practice at home as is documented in Chapter 4: Qualitative Findings Theme 6.

Bog URL: <https://mindfulnessdivinewordstaffparents.blogspot.com/>

3.11 Data Collection

The data collection in case study research is typically extensive, drawing on multiple sources of information, for example, observations, interviews, documents, and audio-visual materials (Yin, 2014). Within this mixed-methods study, a variety of qualitative data (outlined below) were collected from all children participating in the programme, during and after the intervention for each class. Quantitative data (as outlined below) were collected from children in 3rd to 6th classes.

Qualitative data were collected using the following tools: recorded group exit discussions with all children's groups upon completion of the programme; optional written exit interviews from older children in 4th to 6th classes; children's worksheets; children's drawings; children's creative stories; researcher's recorded field notes; reports of children's practice at home emailed by parents (See Appendix M: pp. 37-39 for samples of qualitative data). Qualitative data from adult participants were collected at the end of their courses through written exit interviews.

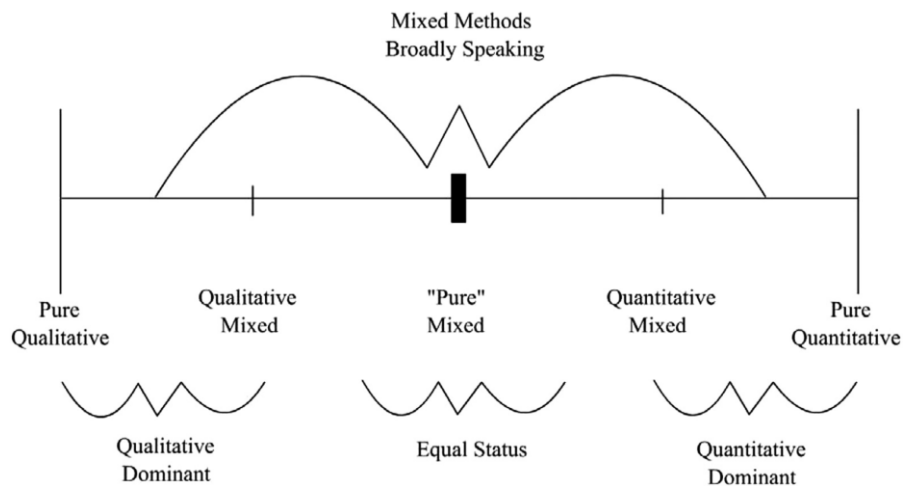
Quantitative data were collected with the CAMM (Greco et al., 2011); a widely used measure which assesses the degree to which children and adolescents observe internal experiences, act with awareness, and accept internal experiences without judging them. CAMM was completed pre- and post-intervention by children in 3rd to 6th classes for whom the CAMM is validated.

3.12 Data Weighting

Bryman suggests that critical decisions must be made about the weighting to be given to quantitative and qualitative data and the sequence of data collection and analysis (Bryman, 2008, as cited in Youngs & Piggot - Irvine, 2012). In this study, while pre- and post-intervention quantitative surveys measuring mindfulness were administered to children from 3rd to 6th classes, greater emphasis was placed on the collection of qualitative data which were collected from *all* participants. This type of research is described as Qualitative-dominant mixed-methods research (Johnson et al., 2007) which as described in Figure 4, "relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects" (Johnson et al., 2007, p. 124).

Figure 4:

Continuum of Data Weighting (Johnson et al., 2007, p. 124)



3.13 Data Analysis

Data were analysed using both quantitative and qualitative methods. Analysis of data commenced with initial analysis of the quantitative surveys followed by the analysis of the qualitative data collected. While data were not triangulated, opportunities arose for analyses to be merged together through integration, towards reaching a conclusion of findings. This was in line with good practice, as mixed-methods studies separately analyse quantitative and qualitative data with methods suitable to their own tradition, merging the findings in the interpretation phase (Creswell and Plano Clark, 2007).

3.13.1 Quantitative Data Analysis

Version 29 of SPSS software was utilised to examine quantitative information gathered through the surveys. Coded data were entered into the software in order to organise, manipulate and visualise the data. Data were analysed to decipher patterns, relationships, and insights from within the collected data towards discovering significant findings that would allow conclusions to be drawn.

3.13.2 Qualitative Data Analysis

As outlined in the Data Collection section of this chapter, a variety of qualitative data were collected during the delivery of the mindfulness courses through recorded group exit discussions; optional written exit interviews with older children; children's

worksheets, drawings and creative stories; reports of home practice from parents submitted by email and recorded researcher field notes.

Qualitative data were analysed according to the 6-step framework for thematic analysis of Braun & Clarke (2022):

Phase 1: Data Familiarization: The researcher immersed herself in the data by reading and re-reading to get a deep understanding of the content and become familiar with the data set as a whole.

Phase 2: Data Coding: The reader systematically identified and labelled segments of the data with codes that represented features or patterns within the data. This was an iterative process of repeated cycles with each cycle building upon the previous one. Initially over 150 codes were used as patterns were being identified.

Phase 3: Generating Initial Themes: This phase moved from identifying individual codes to identifying broader potential categories or themes. Through repeated cycles with each cycle building on the previous one, related codes were merged together to form themes.

Phase 4: Reviewing and Developing Themes: The broad set of potential themes were reviewed and evaluated against the coded data and identified themes were eventually merged into a final set of 6 themes.

Phase 5: Refining, Defining and Naming Themes: This phase involved refining the themes to give each theme a suitable name that would define and reflect the data within. A final set of 6 re-named themes was decided on, from which to present the findings.

Phase 6: Producing the Report: Themes were presented into a coherent narrative to tell the story of the data in a final report.

Throughout Phases 3 to 5, a thematic map was drawn, re-drawn and continually reviewed, as a visual tool “to map out the facets of the developing analysis and to identify themes, any subthemes, and interconnections between these” (Braun & Clarke, 2023, p 70) (see Appendix N: pp. 40-43 for initial identification of themes from coding labels).

3.14 Triangulation and Integration

Quantitative and qualitative data were not triangulated in this study as they addressed very different aspects of the research questions. Quantitative data in the form of mindfulness measures were collected from children in 3rd to 6th classes pre- and post-

intervention via the CAMM (Greco et al., 2011) survey. In contrast, the qualitative data captured children's lived experiences with first-hand accounts of how they integrated mindfulness practice into their lives, particularly when prompted by dysregulation. Quantitative data were analysed by whole group; by class level and by gender while qualitative data were analysed thematically at individual levels. As there was no corroboration or cross-validation of findings, triangulation was not appropriate. Instead, quantitative and qualitative data were integrated at the interpretive stage to offer a more comprehensive understanding of age- and gender-related outcomes.

3.15 Research Validity

Yin suggests measuring the quality of research design against four criteria which include construct validity, internal validity, external validity, and reliability. "The maximisation of these conditions in every phase of the inquiry process is incumbent on researchers who want to develop rigorous and robust case study designs" (Yin, as cited in Yazan, 2015, p. 140). He repeatedly reminds researchers of the paramount importance of these criteria which are common to all social science methods (Yin, 2014).

3.15.1 Internal Validity

Shipman (2014) defines validity in the simplest terms by asking if the research measures what we think it is measuring? In this section, two types of construct validity are discussed – internal validity and external validity, with an overview of how the researcher maximised the conditions for both.

Internal validity relates to how meaningful and trustworthy the results of a study are in relation to how well a study is conducted through its internal structure. Cook and Campbell (1979) identify 7 threats to internal validity. To determine the robustness of this research study, threats relevant to this study were utilised as a checklist for discussion as to how they impacted (or not) on the study and in terms of precautions put in place to minimise the threat to validity:

3.15.1.1 History. History threats to internal validity specifically encompass specific events that a study participant experiences during an experiment that are not part of the experiment itself; therefore, they are extraneous variables (Cook and Campbell, 1979). Because there was a relatively short period of time between survey measurements and because young primary school children would not normally be encountering specific events that would hugely alter their wellbeing, hence history was not deemed to be a major threat to outcomes.

3.15.1.2 Testing. Quantitative surveys were administered on two occasions to children from 3rd to 6th classes: pre-intervention, and post-intervention. While there is a possibility that a child may remember their earlier responses, the long gap between each survey taking place and the format of responses designed as multiple-choice tick boxes would deem the effect of repeat testing on study outcomes to be negligible.

3.15.1.3 Self-Reporting. The researcher was aware that many of the older children self-reported on the surveys. To minimise a negative effect on study outcomes, the researcher encouraged all children to discuss the surveys with a trusted adult. However, self-reports are subject to biases and limitations: children as subjects may make the more socially acceptable answer rather than being truthful and they may not have the introspective ability to be able to assess themselves accurately.

3.15.1.4 Instrumentation. Cook and Campbell (1979) see it as a threat to validity if aspects in which the children were measured changed between pre-test and post-test. To ensure against this, the CAMM (Greco et al., 2011) survey employed for measuring the development of mindfulness skills is a widely used, age-appropriate standardised measure and the same survey was used pre- and post-intervention.

3.15.1.5 Regression to the Mean. Regression to the mean is a threat to internal validity because individuals who are selected for a study because they score high on some measure are likely to score lower on that measure the next time they are tested even without an experimental intervention; whereas individuals who are selected for a study because they score low on some measure are likely to score higher on that measure the next time they are tested even without any experimental intervention (Cook and Campbell, 1979) Threat to internal validity in this area was not impacted as children were not selected for participation - all children from 3rd to 6th classes participated. Additionally, the random factor of a child responding to a Q on a 'bad day' would be significantly diluted by a large sample of 219 children.

3.15.1.6 Compensatory Equalisation. Compensatory equalisation was not relevant to the outcomes of this study as there was no control group involved.

3.15.1.7 Compensatory Rivalry. Compensatory rivalry was deemed to be a positive for this mindfulness study. Participating children were aware that the programme was about improving personal wellbeing and as an antidote to anxiety and stress and so were eager for it to work. While this might be deemed to impact on results, it would appear to be a beneficial outcome for all programmes related to wellbeing.

3.15.2 External Validity

External validity relates to the concept of generalisability and how applicable the findings are to the real world, i.e. the validity of applying the conclusions of a scientific study outside the context of that study. If the external validity is low, then the results of the study will not translate well to other situations and will have limited value as research.

3.15.2.1 Selection. If children have been selected in such a way that they are not typical of children of this generation, findings will not be generalisable. Selection specific to group was not a threat to validity as there was no selection process – all children throughout the whole school were involved.

3.15.2.2 Setting. There is a threat to external validity if what is happening in the area setting is not typical of the general population. In the school setting for this study, the majority of children come from professional backgrounds where there is a strong parental support system. This might impact positively on the research findings as would the fact that the school has a whole-school yoga programme but may also impact on the generalisability of the findings in that the school might not be the norm.

3.15.2.3 History. The school has a history of being very proactive in getting involved in new ventures. The culture of the school is that teachers and students are very open to new ventures and projects. There is a great school ethos in willingness to engage with change and try out something new. As with the setting, this may procure positive findings but may not be generalisable.

3.15.2.4 Construct Effects. As a result of background and history and the ethos of the school, the children were very open to new ventures and may think differently to the general population of children. While this may have been of great benefit to the study, it may be difficult to generalise the findings as the research was conducted in one school community setting only.

3.16 Reliability

Shipman (2014) explains the concept of reliability by asking if results give us consistency across time? Reliability refers to the extent to which the results can be reproduced when the research is repeated under the same conditions. The main threats to reliability identified in this study are subject bias; older children self-reporting; some survey questions difficult to understand and possible researcher bias when analysing and interpreting data.

3.16.1 Subject bias

The older children knew the purpose of this study so this may have consciously or unconsciously impacted their survey responses. To avoid this bias, children were constantly reminded on the importance of reliable and honest responses.

3.16.2 Children self-reporting

While every effort was made to advise and encourage children to enlist the support of parents or a trusted adult when completing the surveys, many children informed me that they had not done so and had completed the questionnaires on their own. This would impact reliability if children were not prepared to be honest and instead, in line with social desirability preferred to give a more socially acceptable response. Additionally, children at primary school may not be mature enough to assess themselves accurately. This could also give rise to different answers being given on different days depending on the mood of a participant.

3.16.3 Researcher bias

As the researcher is also the programme facilitator, there is an unconscious assumption that the project will yield positive results. Also, as the researcher has read widely in the area of other mindfulness studies in schools, additional bias may result from the knowledge of the findings in other comparable studies.

To mitigate possible reliability issues, a number of additional measures were taken by the researcher throughout the course of the study:

1. all participant responses were coded for an anonymous response thereby limiting participant bias.
2. discussions took place with older children who might self-report on the importance of reliable responses and the need for the support of a trusted adult.
3. a variety of data were collected to increase the potential for integration to support authentic conclusions.

In conclusion, by giving meticulous attention to methodological rigour, reliability was established, and generalisability in turn enhanced.

3.17 Ethical Considerations

Denscombe (2003) describes three key ethical considerations, which can be applied to maintain the relationship of trust between a researcher and project participants. These are to respect the rights and dignity of those who are participating in the research

project; avoid harm to the participants arising from their involvement in the research; and operate with honesty and integrity (p. 134).

Prior to the commencement of this project in a school setting, it was necessary to apply for and receive the approval of the DCU Research Ethics Committee (REC). This application by the researcher, adhered to strict ethics guidelines as outlined by the REC towards maintaining the highest levels of safety, integrity, and professionalism throughout the research study. Following application, ethical approval was received from DCU REC in June 2017 (see Appendix C: p. 23).

3.17.1 Ethical Issues Relating to the Delivery of the Courses

All aspects of ethical standards outlined by DCU REC were adhered to as follows:

1. *Free and Informed Consent for Participation in the Research:* Plain language statements with accompanying consent forms were prepared and issued to all participants. To ensure understanding, three separate plain language statements were created for the class levels of children in the school i.e. (1) Infants; (2) 2nd to 5th; (3) 6th. All plain language statements for children were accompanied by a plain language statement for their parents/guardians. All participants signed a consent form. Parents/Guardians of children in Infant classes signed the consent form on behalf of their children.
2. *Privacy and Confidentiality:* Anonymity of all participants was preserved via the use of codes in data collection, analysis, and discussion.
3. *Inclusiveness and Respect for Vulnerable Persons:* SNAs sat with children with special needs throughout the delivery of the programmes in the classrooms. In the event of vulnerable children being unable to remain seated for long periods of time for specific mindfulness exercises, SNAs worked with the children, adapting the exercises when appropriate and on occasion, if deemed necessary, by taking the children out for a short break.
4. *Compliance with the School's Child Protection Policy:* The school's Child Protection Policy was obtained, read by the researcher, and discussed with the school principal to ensure compliance.
5. *Compliance with the DCU Child Protection Policy:* The DCU Child Protection Policy was read and discussed with the school principal to ensure alignment of procedures in both policies.
6. *Safeguards and Supports in Place within the School for Children who might Disclose Current or Historical Abuse:* As this was a major concern for the researcher, an in-depth discussion was held with the school principal on this topic.

It was agreed that class teachers and SNAs would remain in the classroom for the delivery of all programmes which would include class discussions. In the event of a disclosure, the class teacher would alert the school's Designated Liaison Person (DLP) immediately and the matter would be dealt with by the DLP in accordance with the school's Child Protection Policy.

7. *Insurance*: All classes for children and school staff were covered by the school's insurance policy, as the project took place during the school day. It was agreed with the school principal that evening classes for parents would also be covered under the school's insurance policy.

3.17.2 Ethical Issues Relating to the Collection and Representation of Data

According to Merriam (as cited in Mishra, 2021) to do credible qualitative research, it is essential to represent the data ethically. To this end, the researcher drew on the work of Patton (2002) to ensure adherence to the highest ethical standards in all aspects of both quantitative and qualitative data analysis and representation. A 10-point ethical checklist as provided by Patton (2002, pp. 408–409) was utilised:

1. *Explain the Purpose of the Research*: The research was explained to the school principal at a meeting; to the Board of Management by email; to school staff by staff meeting; to children and parents by plain language statements.
2. *Promises and Reciprocity*: No promises were made. Reasons for participation in the research along with potential benefit to participants were explained at meetings and by plain language statements.
3. *Risk Assessment*: At no stage were any participants put at risk. Compliance with the DCU REC Code of Ethics and the Child Protection Policies of DCU was maintained at all times. It was agreed beforehand that any disclosures or psychological distress that might arise would be reported immediately to the principal and Dedicated Liaison Person (DLP) of the school.
4. *Confidentiality*: Confidentiality was discussed with all participants. Anonymity was provided through the use of participant codes. Parents were informed that any disclosure that might put a child at risk would be reported to the school principal and DLP to be dealt with in accordance with the school's Child Protection Policy. Data were stored securely on the researcher's laptop. Hard copy data from surveys were stored in the principal's office until required for analysis.
5. *Informed Consent*: Informed consent was received from all participants through a consent form that accompanied all plain language statements.

6. *Data Access and Ownership*: Data collected would only be accessed by the researcher and her supervisor. Consent was given by all participants for data to be used appropriately in the Discussion and Findings chapters of the final thesis. Agreement was also given by all participants for audio recordings to be used appropriately by the researcher.
7. *Interviewer Mental Health*: All interviews were carried out directly by the researcher and no negative impact was expected. Dr Catherine Maunsell was always available for supervision if there was a need to talk about any experience.
8. *Advice: Who will be your counsellor on ethical matters?* Dr Catherine Maunsell agreed to act as my counsellor on any ethical issues that might arise.
9. *Data Collection Boundaries*: Data types were explained to participants in plain language statements and agreed to in consent forms. At no time were participants 'pressed' for data. During group interviews, participants were invited to speak, and all spoke voluntarily.
10. *Ethical versus Legal Conduct (ensuring that the ethical parameters used for the study stay within the legal boundaries of the law under which the study falls)*: Adherence to both the DCU and the school's Child Protection Policies along with the DCU REC Code of Ethics ensured that the ethical parameters used for the study stayed within legal boundaries.

In conclusion, the ethics section of this thesis conveys a commitment to safeguarding the wellbeing and rights of participants at all times throughout the project. Child Protection Policies from the school and from DCU were aligned with the DCU REC Code of Ethics, informed consent was prioritised, confidentiality was ensured, potential risks were identified, and participant welfare and dignity were protected at all times.

3.18 Ethical Issues Relating to Trauma Sensitive Mindfulness Practice (TSM)

Aligned with the ethical considerations of the DCU Ethics Committee, implementation of the practical classroom activities within this study were guided by the work of David Treleaven (2018), a pioneer in the field of TSM, who highlights the importance of adapting mindfulness techniques to consider trauma's effects on the body and mind, and reduce the risk of inadvertently doing harm and causing further distress to participants during practice. While mindfulness is being recognised and recommended as an effective component of trauma recovery programmes (Van der Kolk, 2014), trauma survivors may experience a number of challenges when engaging with mindfulness, especially regarding those practices that are still (as opposed to moving), and eyes-closed practices with long expanses of silence (Magyari, 2016). "Asking a survivor to lie

down and pay close, myopic attention to specific areas of the body for an extended period of time can be distressing ... a body scan therefore needs to be used cautiously in trauma-informed practice and offered with particular modifications” (Treleavan, 2018, p. 143).

3.18.1 Trauma Sensitive Mindfulness Practice

Treleavan’s characterisation of trauma-sensitive practice is informed by the US National Centre for Trauma-Informed Care with four guiding assumptions, referred to as the “4 Rs” (U.S. National Centre for Trauma-Informed Care, 2016, as cited in Treleavan, 2018, p. xxiii). Wheeler (2022) elaborates on these “4 Rs” which underpin any mindfulness programme that is trauma informed. The first R is concerned with *realising* the ubiquity of trauma. Worldwide, 90% of us will experience a traumatic event during our lifetimes ... this means that in every mindfulness class setting, there is likely to be someone with a history of trauma. The second R of TSM is *recognising* symptoms of dysregulation – hyper arousal or hypo arousal, as they arise. In a mindfulness class, this might be discerned as physical agitation, clenched fists, sweating, or closing eyes and hunching in on oneself in the freeze response. The third R of TSM is to *respond* effectively to dysregulation. Grounding is usually the first port of call, through contact sensations of sit bones on chair, or through sensations of breath. An agitated student in hyperarousal may need to stand up and move vigorously in the space, for example shaking out, before they are able to concentrate on sensations at the soles of the feet; a student in ‘freeze’ or hypo arousal may need to press their feet against the floor for additional sensory input, and visually orient to the room. The fourth R of TSM is the prevention of *re-traumatisation*. As a matter of course, we must weave in trauma-sensitive adaptations in mindfulness practice, and, critically, know when and where to say stop (Wheeler, 2022).

3.18.2 Understanding the Window of Tolerance

A key underpin of TSM practice is ensuring that participants remain within their window of tolerance, a term coined by Siegel (1999), and described as the optimal zone of arousal where we are able to function and thrive in everyday life. Ogden et al. (2006) describes this window as the range of specific emotions, affective intensity or physiological arousal a given person can tolerate before becoming dysregulated and hyper aroused or hypo aroused. Straying from this range may result in heightened emotional reactions or emotional shutdown, both of which impede effective functioning.

Himmelstein (2019) urges extreme caution in facilitating formal mindfulness meditations when a young person is outside the window of tolerance and their brain is down regulating. When this occurs, we need to soothe the lower levels of the brain – the brain stem and the limbic area. The language of the brain stem is sensation so we can bring attention to the five main senses of sight, sound, touch, smell and taste. Other effective mechanisms are using the breath and movement.

3.18.3 Integrating TSM Practice into School-based MBIs

To support staying within the window of tolerance, Treleaven (2018) advocates that mindfulness teachers empower participants when educating them about the window of tolerance by teaching them adjustments when they notice signals of hyper or hypo arousal; maintain a close watch on participants for verbal or non-verbal signs of dysregulated arousal (e.g. hyperventilation, excessive sweating, noticeable dissociation, emotional volatility, excessive crying); incorporate grounding exercises that focus on breathing, moving and other sensory input to help participants feel anchored; recognise when to apply the brakes (opening eyes, moving, taking structured physical breaks); utilise the breath for regulation; stay within their own windows of tolerance at all times (pp. 101-111).

Informed by these guiding principles, the methods of integrating TSM practice into programmes for adults and children in this study, were age-appropriate. In-keeping with the potential of power of suggestion, while adult participants were informed of the concept of the window of tolerance, with the inclusion of grounding activities to mitigate potential hypo or hyper arousal, young children were not introduced to the actual term. Instead, in an age-appropriate manner, children were advised of the importance of being comfortable during practice, continually given choice within practices; and were advised to inform me (or a parent if practising at home) if at any stage during a particular practice, they felt sad, upset or uncomfortable in any other way.

The researcher/facilitator always remained vigilant for signs of dysregulation of hyper or hypo arousal. Children were offered the choice of whether to sit or stand during practices and were also offered choice of keeping eyes open or closed. Breathing exercises were adapted to include somatic movement such as arm raising and children were offered choice as to whether to focus attention on the breath or on the somatic movement. Giving students agency in this manner plays a huge role in the prevention of re-traumatisation and is of the utmost importance when working with groups in classroom settings (Wheater, 2022).

3.19 Impact of COVID-19 on the Research Project

School closures in March 2020 in Ireland had a significant impact on this project. The initial multiphase plan for the study had included a third phase where there would be a gradual release of responsibility to the school for maintaining and developing the mindful school community developed over the previous 2 years. A broad outline of this final phase was planned with the school principal in November 2019 and was due to commence in March 2020.

It was planned that children would be elected as Mindfulness Leaders in all classes. Specific children who had shown interest and ability during the delivery of the courses, would be trained to lead mindfulness practices at school assemblies and in the classrooms. Mindfulness initiatives were planned for classrooms (e.g. children using calming glitter bottles and worry boxes in the classroom; kindness week; gratitude week; mindfulness transitions between lessons led by children; a mindfulness section in the school library; mindfulness stories with younger children, etc.

It was planned to collect data from teachers through focus group interviews during the final third phase. However, with the closure of all schools, colleges and childcare facilities across Ireland in March 2020, followed by further extensions of these closures, it was not possible to collect data from teachers. The researcher waited in the hope of schools re-opening, but following discussions with the school principal and the research supervisor it was decided to amend the overall plan and base the study on the initial 2 phases, and on the data collected before school closures.

3.20 Summary

This chapter opened with a discussion on the identification of a suitable research paradigm, the interconnectedness of ontological and epistemological philosophical assumptions and the role they played in defining the philosophical pragmatic worldview which underpins the research mixed-methods methodology and methods utilised in this study. The selected methodology of qualitative-dominant, mixed-methods research was defined along with the provision of a rationale for its employment within this study. An outline was provided of the multiphase research design along with a discussion on challenges occurring with mixed-methods research. The construction of a comprehensive literature review was discussed with main themes of extant research literature related to the research topic synthesised. The defining of theoretical lenses was emphasised along with the significance of the research gap addressed by this study. The research problem, research purpose and research question/s were each specified.

The employment of a case study as the research approach was examined along with a rationale for its use in this study and a discussion on the strengths and weaknesses of case studies. A description was given of the research design and methods incorporating the setting, sampling and initial procedures undertaken. The multiphase implementation of the project was outlined to include details of design, methods of data collection, data analysis, and interpretation. Each of these elements was considered in line with the selected research paradigm and methodology of mixed-methods research. Finally, issues of research quality (internal and external validity, and reliability) and ethical issues were discussed along with an overview of how Covid 19 school closures impacted the project.

Building on the methodological framework, research design and methods outlined in this chapter, Chapter 4 presents the findings from analysed qualitative data.

Chapter 4: Findings from Qualitative Data

In the early stages of familiarisation with the large volume of qualitative data collected throughout this research study, it became clear that the challenge of sorting and categorising the raw data into cohesive units, where themes could be identified, would be a mammoth one. The voices of 540 children as portrayed in their drawings, transcripts of group audio exit discussions, worksheets, and written exit interviews, along with data collected from adult participants, seemed to merge into what presented itself as an enormously difficult jigsaw puzzle.

Much of the data consists of responses produced orally or in written format by the children. In order to preserve the authenticity of their work, the original spellings of written work have been retained. Where necessary, spelling corrections are provided in square brackets for clarity. While allowing for differentiated and age-appropriate methods of questioning younger children, the same core questions were asked across all age-levels in audio recorded exit interviews and in written exit interviews completed by children in 4th to 6th classes. Accordingly, their responses are presented thematically as a collective, with children's ages and gender (boy/girl) attached to each response.

In line with the thematic analysis framework of Braun and Clarke (2022) as outlined in the Methodology chapter, following several months of familiarisation with and organisation of the data, initial coding yielded over 150 descriptive labels with continuous overlap, where many of the words and images of the participants could belong to any of a large number of labels. Continued refinement of coding labels combined with grouping of categories generated (outlined in this section at the beginning of each theme), finally led to the identification of 6 broad themes that would represent the overarching qualitative findings of the research. Once themes had been identified, an intentional effort was made to bring the children's voices to the fore and allow the rich data to tell their own story.

This chapter presents the key findings that were identified from thematic analysis of the raw qualitative data, structured around 6 main themes as outlined below:

Theme 1: Children's Foundational Understanding of Mindfulness

Theme 2: Translating Understanding into Practice

Theme 3: Mindfulness as a Mechanism for Self-Regulation

Theme 4: Development of Respectful Communication

Theme 5: Children's Enjoyment of Mindfulness

Theme 6: Post-Course Reflections of Adult Participants

While every effort has been made to avoid overlap, it proved impossible to do so with reference to the topic of mindful breathing techniques used by the children. Mindful breathing featured in children's explanations of mindfulness; it was a key method by which children translated their understanding of mindfulness into practice; it featured as a fundamental practice by which children self-regulated and dealt with challenging situations; and as such, is discussed within all themes.

4.1 Theme 1: Children's Foundational Understanding of Mindfulness

Following completion of their mindfulness courses, children were asked the question: What is Mindfulness and how would you explain it to somebody? Although there was a wide gap between the simplistic definitions of the younger children and the more profound articulations of older children, responses demonstrated a practical understanding of fundamental principles of mindfulness appropriate to age levels, with children often referring to their own personal experiences.

The children's explanations of mindfulness will be discussed under the following 9 subthemes identified from the data: The Concept of Being Present; Paying Attention; Noticing; Focus and Concentration; Training the Mind; Wellbeing; A Tool for Stress; Mindfulness as a Panacea; and Understanding Brain Mechanisms in Relation to Mindfulness.

4.1.1 The Concept of Being Present

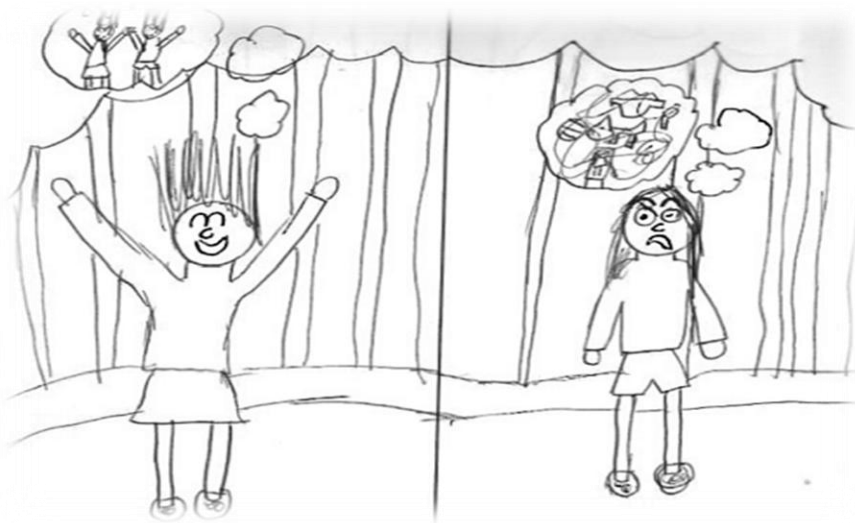
The concept of "being present" in the moment of now, emerged as a core understanding across all age-groups: "Mindfulness is a way of being in the present and in the moment" (Girl Age 12); "Mindfulness can make you more focest [focused] in the naw [now] were your ment [where you're meant] to be" (Girl Age 8). Children distinguished between being anchored in the present moment and not focusing on the past or the future: "Mindfulness is about living in the moment" (Boy Age 10); "Being mindful is not about something in the past or in the future it's about what's happening now" (Girl Age 9).

When explaining the concept of being present, there was a certain ambiguity with children's use of the word "thinking," but in-class questioning revealed that while many children had a good understanding of the concept of "being present," they often articulated it as "thinking" about what was happening in the present moment (Researcher Field Notes).

“It's about what's happening now, not what happened before or what's for dinner or what's for breakfast. Just think about what's right in front of you and just concentrate on that and not anything else” (Girl Age 10); “To look around and to smell things and to hear things” (Girl Age 9); “Mindfulness is if somebody had a load of things that they're thinking about and then just thinking about the things that are around you” (Girl Age 6). This ambiguity of the use of the word “thinking” is portrayed beautifully in Figure 5.

Figure 5

Being Present



“There are 2 girls on a trampoline. One is thinking of the future and the past and the other one is playing and thinking of the present” (Girl Age 9).

When conceptualising “being present,” mindful perception of their immediate environment was often referred to with the term “aware” added: “It’s being present and aware” (Girl Age 12); “Be aware of your surroundings and be present” (Boy Age 11); “Mindfulness helps you to be aware of everything” (Girl Age 9). Explanations indicated that children linked the concept of mindfulness to a heightened awareness of their surroundings: “Mindfulness would be like say I was walking in the park and I see some beautiful flowers and they are lovely. That would be mindfulness” (Girl Age 7).

Many children in the older age groups displayed insights into deeper applications of being present as illustrated in the following example:

Boy: If you take into account that mindfulness is basically just bringing yourself into the present, you could just read a book to practise mindfulness, you could just do anything that doesn't require thinking to practise mindfulness.

Researcher: So tell me how you would read a book mindfully?

Boy: If you were to read a book mindfully, you would focus on the page with your

eyes, you wouldn't really get caught up in any other thoughts or things, you would just go into the book. (Boy Age 12)

On many occasions throughout their programme, younger children were encouraged to express concepts of mindfulness through the drawing of images. This expression enhanced verbal explanations as seen in the following examples of “being present” (Figures 6-7), where children illustrated the difference between being mindful and having your mind full. “Children were eager to discuss their images of Mindful versus Mind Full which, despite the continued use of the word “thinking,” showed that they had grasped the idea of being present in the moment” (Researcher Field Notes).

Figure 6:

Mindful versus Mind Full



“A boy is sitting on the tree listening [listening] to the breeze and the other boy is thinking of everything he has to do later” (Boy Age 9).

Figure 7:

Mindful versus Mind Full



"Mindfulness is about being in the present and seeing what's around you" (Boy Age 9).

The responses of the children demonstrate an understanding of how mindfulness means being present, anchored in the now rather than in the past or future, and engaged through the senses with their surroundings.

4.1.2 Paying Attention

Within explanations, "paying attention" was identified as a crucial element of mindfulness, with children emphasising the act of paying attention as focusing on one thing: "... so that our brain can just focus on one thing without drifting away" (Boy Age 11).

Paying attention with the senses was often highlighted: "So when you're noticing you slow it down and you look at something very carefully and when you are paying attention you look at it very closely" (Girl Age 6); "I feel as if mindfulness is like you are being aware of and paying attention with all the senses and getting the thoughts out of your mind" (Boy Age 12).

Some children found it easier to explain the concept by describing "mind wandering" as being the opposite of "paying attention:"

Paying attention like ... say ... like this would be the opposite of mindfulness like ... say I'm just like ... Mmmmm ... like I'm watching a movie or something and just thinking of something like I'm thinking in my head it could be anything. That would be the opposite of mindfulness. (Girl Age 7)

Say if you were out in the park walking your dog and there is beautiful [beautiful] flowers and you were thinking about other stuff in the future and you don't notice the beautiful [beautiful] flowers but if you noticed them and paid [paid] attention to them that is mindfulness. (Girl Age 9)

Children were clear on the fact that paying attention involved an anchor area on which to focus: "It's paying attention to whatever you are doing" (Girl Age 8); "Mindfulness means you have to pay attention to what you are doing and to concentrate" (Girl Age 10). One boy elaborated further, incorporating the intentional direction of attention to the present moment: "I can explain mindfulness. You need to be paying attention to what's happening right now instead of all the things that have happened" (Boy Age 8).

The children's reflections suggest that they understood the act of paying intentional attention as a fundamental component of mindfulness, an insight that would be essential to their ongoing engagement with mindfulness practice.

4.1.3 Noticing

The concept of "noticing" as a core characteristic of mindfulness was central to children's explanations: "Mindfulness is noticing things around you" (Girl Age 12). Many described mindfulness as an enhanced ability to notice small details in their surroundings, particularly with regard to the sights and sounds of nature: "You go to the park and notice all the nice sounds [sounds]. Close your eyes and take time out to notice everything around you" (Boy Age 9). "It's noticing what's around you when you are in the park like the trees and the grass" (Figure 8).

Figure 8

Noticing



(Boy Age 7)

This understanding of mindfulness as enhanced noticing of surroundings is further explained by a girl in 6th class:

Girl: You can practise mindfulness by just when you are walking outside taking in the grass, taking in the breeze, taking in everything

Researcher: And when you say “taking in” - what do you mean by that?

Girl: Just feel it. Don't think of it and just be with it, be mindful of the breeze, notice it and be present

Researcher: So tell me how you can be mindful of the breeze?

Girl: Just notice the way your hair is going with the breeze, notice the trees swaying with the breeze. (Girl Age 12)

By placing such emphasis on “noticing” when explaining mindfulness, a skill that is fundamentally underpinned by being present and paying attention, these reflections show understanding that the ability to “notice” with enhanced observation skills is fundamental to, and at the centre of all mindfulness practice.

4.1.4 Focus and Concentration

The word “concentration” was repeated many times within children’s responses to the question: What is mindfulness? While the term “focus” refers to directing attention to a specific area, and “concentration” refers to maintaining that focus, children didn’t differentiate and sometimes used the words interchangeably: “Mindfulness is concentrating on what’s happening right now” (Girl Age 7); “It’s when your [you’re] trying to keep one thing in your head. You try to concentrate” (Girl Age 9); “Mindfulness is focusing on the present moment and not the past or future” (Boy Age 11); “It’s about focusing on what’s around you and what you’re doing” (Girl Age 8).

This equivalence of mindfulness with concentration and focus was further developed by children describing occasions of mindful practice: “Yesterday I was riding my bike. I had to be mindfull [mindful] so I could be safe. I needed to concentrate so that is being mindfull [mindful]” (Boy Age 9); “I was colouring mindfule [mindfully] and relly [really] tring [trying] not to go out of the line and I was fosing [focusing] on the colres [colours]” (Boy Age 8).

It became apparent that the understanding of mindfulness as “concentration” and “focus” came from a recognition that the practice of mindfulness exercises supported them in building the skills of focus and concentration: “It’s an exercise that helps you focus” (Girl Age 11); “It makes you focus better” (Boy Age 11).

Figure 9 illustrates the understanding of mindfulness as linked to concentration with children playing a game of chess: “When discussing her image, the child explained

that when playing chess, you have to be mindful and really focus and concentrate so you can get the moves right” (Researcher Field Notes).

Figure 9:

Concentration



(Girl Age 9)

The written, verbal and artistic reflections of the children place focus and concentration at the core of their understanding of mindfulness, illustrating how it plays a major role in helping them to remain present and attentive in everyday activities.

4.1.5 Training the Mind

The understanding of Mindfulness as “training the mind” was referred to on many occasions in the upper classes, as the children were able to relate the term to physical activities that require training such as running or playing a sport: “I can train my mind to relax” (Girl Age 10).

Older children understood that training the mind wasn’t always easy and required the effort of practice with mindfulness exercises and techniques: “Mindfulness is a group of exercises to train the mind to be present” (Boy Age 12); “It is not just about relaxing it is also about controlling your mind and staying present” (Boy Age 12).

“When questioned further on why you needed to train the mind, the dominant answer was to take more control of where your mind was going and bring it to the present moment” (Researcher Field Notes). This was expressed in a number of ways: “Mindfulness is a way to train your mind not to think about anything that is not around you” (Boy Age 9); “Mindfulness is something you would use to control your mind and stay in

the present” (Girl Age 11); “You exercise your mind into not thinking about the past” (Boy Age 12).

The Puppy Training lesson in the MiSP Paws b programme introduced the concept that training your mind is like training a puppy: “You can train your mind like a puppy” (Girl Age 10); “Mindfulness is about being present and training the mind. The mind can be anywhere like a puppy, and you have to be firm and patient” (Girl Age 11); “It [mindfulness] trains your mind and it's all about patience” (Girl Age 10).

“Children enjoyed the images of the puppy never sitting still and having to continually be trained to come back to where you wanted it to be. They understood this analogy with training the human mind to stay focused” (Researcher Field Notes): “Your mind is like a puppy. It runs away and brings back things you don’t want. Your mind like has different thoughts like when you want to think about something” (Boy Age 10).

If you told the puppy go get me your ball, go fetch it, he would run off and come back with something else that you don't want. Because when you are like breathing or trying to concentrate and you're not really used to it, your mind will wander off somewhere else and bring back lots of other thoughts that you don't really want. (Girl Age 10)

The children’s comments on this topic demonstrate their understanding of how, just like the body, the mind can also be trained by mindfulness practice to further support efforts to be present, pay attention, focus, concentrate and gain greater control over thoughts: “Mindfulness is bringing your mind back from running away” (Girl Age 12).

4.1.6 Wellbeing

Children at all age levels identified the link between mindfulness and wellbeing and as a result, many explained mindfulness in terms of self-regulation of emotions. At lower class levels, this was sometimes described in exit discussions in terms of understanding mindfulness as a way to manage difficult emotions: “Mindfulness is something that helps you calm down if you are in a tantrum or you are angry with someone” (Boy Age 6); “Mindfulness is like if you are frustrated or something it will help you calm down” (Girl Age 6); “Mindfulness is really good when you are feeling angry or upset” (Boy Age 7); “It calms you down and makes you sunny” (Girl Age 7); “If you’re angry do mindfulness because it makes people happy” (Boy Age 7).

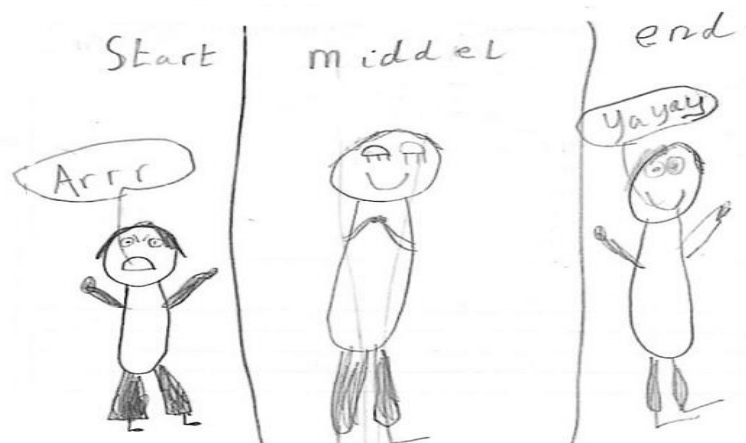
While children did not have the term “self-regulation” in their vocabulary, the concept of being able to calm down when feeling overwhelmed, angry or upset remained to the fore in the explanations of children at middle class levels: “If I were to explain mindfulness I would tell that it comes [calms] me down when I am mad or upset and it is

relasin [relaxing] too” (Girl Age 8). “One 8-year-old boy was concerned that his inability to control his emotional outbursts might have serious consequences later on in life” (Researcher Field Notes) adding: “Mindfulness [Mindfulness] teaches you about being cam [calm] so you don’t go to jail when you are older” (Boy Age 8).

When asked how they would explain mindfulness to their friend who goes to another school, many responses in middle classes remained connected to the control of emotional responses: “I would show them how to calm down if there [they are] mad or upset” (Girl Age 8); “I would tell them mindfulness is a thing that can calm you down very much. I use it for a lot of things.” As illustrated in Figure 10, this young boy went on to explain that “there are 3 stages you will probbly [probably] go through when using mindfullness [mindfulness] to calm you down” (Boy Age 8).

Figure 10:

3 Stages to Calm



(Boy Age 8)

“The first stage of “Start” showed an angry child. In the middel [Middle] stage, the child can be seen breathing mindfully with eyes closed. The final stage depicted as “end” sees the child in happy pose” (Researcher Field Notes).

Although older children in the upper classes equally explained mindfulness as a tool to support wellbeing: “I would explain it as a way to feel happier” (Girl Age 12); “A medicine for depresion [depression]” (Boy Age 11); there was an added component in their explanations that resulting wellbeing involved effort on the part of the participant: “It’s coping mechanisms that you learn yourself” (Boy Age 12); “It is some exercises that will help you relax” (Boy Age 11); “Mindfulness is an ok course were [where] you learn how to controle [control] yourself in a bad situation” (Boy Age 11); “Mindfulness is a way to solve a problem about the way you feel” (Girl Age 11).

A key aspect of this intentional effort towards self-control that emerged in their explanatory descriptions of mindfulness is one of “taking a moment” in order to respond calmly and thoughtfully to a situation rather than react impulsively: “Mindfulness is about being able to control your reactions” (Girl Age 11); “It’s paying attention to your emotions ... and taking a moment to breathe when you need one” (Girl Age 12); “I would say it’s to take a moment and step out of your problem just for a moment at a time and fix your problem in a calm way so you don’t just react” (Girl Age 12).

It is clear from their explanations that both younger and older children understood mindfulness as a practice that can promote wellbeing through being given tools to calm down along with the skills to be non-reactive and in control of their emotions.

4.1.7 A Tool for Stress

While children in younger age groups rarely used the term stress, those in the upper classes demonstrated an understanding of mindfulness as a tool to relieve anxiety and stress. “During open and honest class discussions, children frequently spoke of stress and anxiety, relating personal experiences where many admitted to having struggled to manage feelings of overwhelm when feeling out of control” (Researcher Field Notes).

Analysis of data highlighted that some children perceived mindfulness primarily as a coping mechanism to help them deal with and manage stress and anxiety: “I would explain mindfulness to someone by saying it helps you with anxiety and stress” (Girl Age 12); “Mindfulness is a practice to keep controll [control] of stress and anxiety” (Girl Age 11); I would explain it [mindfulness] to someone by saying it helps to reduce stress” (Girl Age 12); “It is a method of relieving stress” (Boy Age 12); “Mindfulness helps reduce stress and makes you feel calm” (Girl Age 12).

Many children in 5th and 6th classes did not view mindfulness as a “magic wand” to bring calm to difficult situations but as a process where an input was necessary in order to yield a positive result in stress management: “Mindfulness allows you to focus on what you’re doing so you can be happy and not stressed” (Boy Age 12); “Mindfulness is learning about the mind, breathing exercises and how to deal with stress, pressure and depression” (Girl Age 12).

Some children explained mindfulness as an escape from stress: “Mindfulness is a way to avoid stress” (Boy Age 12); “Mindfulness is an escape from stress or anxiety or worries” (Girl Age 11). This point provoked an interesting debate during a 5th class exit discussion:

Girl 1: Mindfulness is about escaping from stress
Researcher: You used a very interesting word there. Is mindfulness about escaping from stress?
Girl 2: No, it's about learning how to deal with stress. (Girls Ages 11)

A deeper understanding of mindfulness as a tool for managing stress was further reported by a boy who expressed the need to sit with and experience the stress in order to deal with it: "Mindfulness is a course of learning how to be present with stress then deal with it" (Boy Age 12).

A common thread in the explanations of mindfulness was how it was often perceived as a preventive measure for stress in the future. While children in the younger classes regularly discussed difficult emotions such as anger, worry sadness, etc. they rarely used the term "stress" as something they experienced in their daily lives but showed an expectation that it might be present in teenage years. (Researcher Field Notes)

Responses from children in one of the 2nd classes viewed engagement with mindfulness practice as a precautionary measure for the future, sometimes removing it from their personal experience to a third person narrative: "So when they are teenagers they don't get stressed [stressed]" (Boy Age 8); "If there [they're] ever stressed out in there [their] life they can do mindfulness to calm down" (Girl Age 8); "I think it [mindfulness] is a good idea because we will need some help when we will be teenagers" (Boy Age 9); "When they [you] are a teenager if you are in a fight you can do breathing" (Boy Age 8).

Data highlighted that older children also viewed the practice of mindfulness as a precautionary measure for stress relief in the future: "We should practice [practise] mindfulness because you would have a less stressful life" (Girl Age 11); "Because it [mindfulness] can deal with stress when your [you're] older" (Boy Age 12); "Mindfulness can make an impact on my life to help deal with tough times" (Girl Age 11); "We should practise mindfulness because when the time comes and we really need it, we will be able to use it quickly and get non-stressed quicker" (Girl Age 11).

"An interesting aspect of mindfulness being explained as a precautionary practice for the future emerged in discussions in 6th classes with the use of the term "weaving your parachute" (Researcher Field Notes).

Boy: It's like weaving your parachute.
Researcher: X has made a very good point there that it's like weaving your parachute. Can you explain that to me?
Boy: It's like building up tools so you can be prepared to fall without being damaged. (Boy Age 12)

Although arguably limited as only one aspect of mindfulness, the children's responses demonstrated an awareness of mindfulness as an effective strategy for the

management of stress, allowing them to lay the foundations for the development of a core life skill with which to navigate stressful challenges with greater ease and resilience.

4.1.8 Mindfulness as a Panacea

While most children understood mindfulness as a support for wellbeing, data indicated that there were some children who perceived it to be a magic bullet. These opposing understandings can be seen in the statements of 2 children of similar age on the topic of emotion regulation: “Do some breathing [breathing] and you could feel better” (Girl Age 8); “Do some breathing and you should be perfect” (Boy Age 8).

“When delivering the mindfulness programme, it was sometimes difficult to strike the balance between expounding the benefits of mindfulness as a practice to support wellbeing without having children subsequently view it as a panacea to remedy all difficulties” (Researcher Field Notes).

4.1.8.1 The Magic Bullet Effect. The understanding of mindfulness as a cure-all, was evidenced in statements from children who perceived it to be a resolution for all issues: “When you are a teenager hormones take over you while if you know mindfulness you can stop that very easily by just breathing” (Boy Age 9); “Mindfulness is to clear your mind and stay calm if someone has annoyed you all you have to do is do mindfulness” (Boy Age 9); “When my dad was not at my football and I worried that he did not show, I did finger breathing and then he came” (Boy Age 10). For some, this led to the belief that mindfulness either worked or didn’t work.

4.1.8.2 Mindfulness “works.” Although a minority, there were children who saw mindfulness as a magic wand, and they were eager to report its effects: “I couldn’t find my socks and got really mad, but I did some finger breathing and found my socks” (Girl Age 11); “Once I was doing homework. I did not know what this thing was. My mum and dad were not home. So I tried doing mindfulness. I tried doing it for 5 minits [minutes]. After 5 minits [minutes] I did my homework, it worked!!! I done [did] all the tools and it worked” (Boy Age 10). One girl attributed her win in a competition to “finger breathing” beforehand: “When I was in a national competition with at least 60 other girls who were 12, 13 and 14. I used finger breathing beforehand and I came first” (Girl Age 12).

4.1.8.3. Mindfulness “doesn’t work.” This was balanced by a separate, minority at the opposite end of the continuum who expected an instant positive result from practice. From those who implemented a mindfulness intervention on one occasion: “I once tried it at home, but it does not work” (Girl Age 11); to a child in the position of nervous goalkeeper: “I used it when I was in goals for my club cause I was nervous I was

gonna let them in. It did not help” (Girl Age 12); to a boy who utilised a technique to curb his annoyance: “I tried to use it when people were being annoying, but it didn’t work” (Boy Age 12). Some children were adamant that as a “one size fits all remedy”, mindfulness didn’t work. “It doesn’t work” (Girl Age 10); “It didn’t ever work” (Girl Age 11); “I’ve tried, and it doesn’t work” (Girl Age 11). One reflection suggested that a particular child had given up on the prospect of achieving any benefits: “It never seems to work for me, and I have better things to do” (Girl Age 11).

The expectation of an instant, positive result was further described by a parent of a child in 4th class:

My child is very anxious and stressed at the moment. She feels that she should be able to improve how she feels or make it go away with mindfulness, but she can’t. After practising a mindful breathing technique, she often says, “but I’m still worried – it hasn’t gone away.” (Parent of Girl Age 10)

This limited understanding inevitably led to children being disappointed when unrealistic expectations for an instant resolution were not achieved: “On New Years [Year’s] Eve, my Mum and Dad told me that Taz was really sick, and they were going to the vet to be put out of his misery (he was an old cat). I was SUPER upset, I loved Taz, so I did the mindfulness technique. It didn’t really help much” (Girl Age 9).

4.1.8.4 Realistic Expectations. However, the vast majority of children fell in the centre of this continuum. They didn’t expect magic and when employing a self-regulatory intervention, were happy to be realistic in their expectations: “When I stop drop and breathe I feel okay but not amazing because I may still not feel fully okay” (Boy Age 9); “If I am worried or sad I do the exercises and it helps” (Girl Age 9); “I cannot calm myself all the time but it is extremely helpful for being present and calming yourself down” (Boy Age 11).

This majority group understood the need for sustained practice: “It takes practice but when you get it, it helps a lot” (Boy Age 11); “You can do it once a day or once a week and eventually you will get good at it” (Girl Age 11); “It is a method of getting rid of any worries over time” (Boy Age 12); “We should practice mindfulness so we could get better and better at it” (Girl Age 12).

One boy explained it clearly in a class discussion: “It’s like a journey. So like, it’s not just one lesson or one class that will help you. You have to practise and develop your skills by coming and doing it properly and stuff” (Boy Age 12).

This understanding of mindfulness as not being a quick fix solution was further supported by a child who noted: “Halfway through the course I realised it was really

helping me” (Boy Age 10), and equally by another child who understood the benefits of practice: “I will [continue] because I still have a little bit of worry” (Girl Age 10).

These reflections show that if mindfulness is perceived as a quick solution to resolve challenges, children may view it in black-and-white terms leading to frustration on the child’s part if they don’t see immediate and positive results. Conversely, if the practice of mindfulness is emphasised as an intervention that when practised consistently, can contribute to overall wellbeing, children will more likely appreciate its long-term value without expecting immediate, life-changing results.

4.1.9 Mindfulness and Brain Mechanisms

Children in the upper classes were captivated by the knowledge that practising mindfulness could influence their brain development: “Mindfulness is good for your brain” (Girl Age 10); “It improves the brain in many ways and even helps academically” (Boy Age 12); “Mindfulness makes people’s brains more advanced or focused” (Boy Age 11). They showed a great interest in exploring mechanisms of brain structure “... the fight flight freeze because it was very interesting” (Boy Age 9); “... the parts of my brain and what they do” (Girl Age 10).

4.1.9.1 Prefrontal Cortex. Although children learned about several brain mechanisms: the function of the prefrontal cortex in paying attention, concentrating, making choices and helping us learn new skills, emerged as central to their understanding of the impact of mindfulness on the brain: “If you practise mindfulness your prefrontal cortex will evolve and you will be able to learn new skills better” (Boy Age 11); “It helps us to choose better choices” (Boy Age 9).

During exit discussions, children demonstrated how they were able to link the prefrontal cortex with significant mental processes of benefit to their lives:

Researcher: Tell me about the prefrontal cortex

Boy 1: It helps you to concentrate

Boy 2: It helps you to face challenges

Girl 1: It helps you with talents

Boy 3: It helps you learn new skills like opening a banana. (2nd class Ages 8-9)

Girl 1: It's the leader of the whole brain

Boy 1: If we didn't have the prefrontal cortex, we wouldn't be able to make good decisions and then we wouldn't be able to live

Girl 2: It helps us to concentrate and learn new things

Boy 2: It helps us to get things into our heads. (4th class Ages 10-11)

4.1.9.2 Amygdala. Within the area of exploring brain mechanisms, it was the survival role of the amygdala that fascinated children the most: “If something is coming at you the amygdala decides if you should fight or should flight” (Girl Age 10); “It helps you survive” (Boy Age 10); Because there are so many things that are dangerous and when something dangerous comes at you the amygdala makes you either fight or you run away from it. It just reacts” (Girl Age 10).

Children as young as 8 demonstrated the ability to clearly explain the survival role of the “fight/flight” response:

Boy: The amygdala is the old part of the brain and it's very small

Researcher: And what's its function? Why do we have it?

Girl: It tells us to fight or flight

Boy The amygdala was given to us so we wouldn't be killed because if you waited to think oh will that kill me or will it not it would have already killed you

Researcher: What kind of a thing might kill you?

Boy: Well, if there was a big rhinoceros chasing you and you were thinking about fight or flight it would have already killed you because you had started thinking. If you didn't have it, you would be killed. (2nd class Ages 8 - 9)

When prompted by the statement that there was a little downside to the survival mechanism of the amygdala, important understanding was revealed in children's responses: “It believes in your imagination. It doesn't know the difference between your imagination and real life” (Girl Age 8); “It doesn't know the difference between not so dangerous things” (Boy Age 8); “It doesn't know if something is a real danger or imaginary” (Girl Age 10); “Say there's like a little child and there might be a dog chasing them and they might start to worry like the dog was a big monster” (Boy Age 10).

Girl 1: It doesn't think. It doesn't care

Girl 2: It just reacts. It doesn't know the difference between what's real and what's not real

Boy: And sometimes it wouldn't be a real threat it would only be imaginary. (2nd class Ages 8 - 9)

“Another aspect of learning that fascinated the children was the ability of sustained mindfulness practice to physically alter the structure of the amygdala and other areas of the brain. Many older children were eager to engage with further online learning on brain plasticity at home” (Researcher Field Notes). Children were delighted to report that ... “Mindfulness is scientifically proven to shrink your imigdila [amygdala] and make you a calmer person” (Girl Age 11); “Practising mindfulness ...can shorten another part of the brain called the amygdala which can start up worries” (Boy Age 12); “I think mindfulness helps the amygdala to shrink and that can make you less aggressive” (Girl Age 10); “It [mindfulness] makes us calmer people by calming our imigdila [amygdala]” (Boy Age 11).

Key understanding of the impact of mindfulness practice on the amygdala can be summed up in the words of a parent who commented that when she had overreacted and got angry with her child at home, he didn't react but calmly informed her ... "Mum, you need to do some mindfulness to work on your amygdala!" (Parent/ Boy Age 10).

4.1.9.3 The Amygdala and the Storytelling Mind. Children quickly grasped the connection between how their "storytelling minds" could cause the amygdala to react, often leading to being overwhelmed by strong emotions in non-threatening situations.

This awareness led to children reporting on decisions they had made "... not to let your mind run away with you" (Boy Age 9); "... to stay calm and stay away from the storytelling mind" (Boy Age 11); "... not to jump to conclusions even when you know people are talking about you or any other scene" (Girl Age 11). One young boy summed it up, noting that: "Sometimes your mind will imagine that it's a lot more worse than it happened and you realise it's not as worse as I think" (Boy Age 8).

"During a class discussion, many children in 6th class expressed that this new insight had been of great practical help as they navigated the ups and downs of their young lives" (Researcher Field Notes); "I now know that not all things that you worry about are true. That helped me a lot" (Girl Age 12); "What you think isn't always true" (Girl Age 12); "I learnt to realise I am coming to conclusions" (Boy Age 12).

This realisation "... that some of the time when you're worried, it's just your mind making up stories" (Boy Age 12); and "...that everything you are making up can be mostly in your head" (Boy Age 12); served as a fundamental stepping stone to children's later understanding of the cognitive behavioural model of the "Hot Cross Bun" (Williams, 2001), discussed in Theme 3.

4.1.10 Bringing it all Together

While we have explored children's explanations of mindfulness under a series of sub-thematic headings, some children made additional statements that captured a comprehension of mindfulness way beyond their years.

An 8-year-old girl when asked to explain mindfulness, brought together each of the concepts of paying attention; noticing, and stress reduction in a fluid manner showing her ability to be truly present with her surroundings and her emotions, whether challenging or not: "You go to the park and notice everything around you. You're feeling stressed and have some quiet time. You're feeling exited [excited] and do some breathing. You close your eyes and listen to everything around you" (Girl Age 8).

Some children clearly understood that mindfulness was not just about managing challenging moments; it was about living your life to the full and being present with each moment as it unfolds: “Mindfulness is not just about dealing with stress. If something really happy is going on, you can be really present in it and really enjoy what is happening while it is happening and then just let it go” (Girl Age 11); “It helps you focus and put things into perspective. It’s not all about stopping bad thoughts. It’s also about living happily” (Girl Age 12).

Children recognised that there will always be stressful situations that appear as waves which we must navigate: “It’s learning how to take something out of bad situations, just think in a different way about situations and think better” (Boy Age 12).

4.1.11 Summary

This section highlights children’s understanding of the concept of mindfulness under 9 distinct subthemes. Findings as presented, demonstrate that children were able to comprehend multidimensional aspects of mindfulness and demonstrate the potential for meaningful engagement with the practice.

Possibly the most widely used definition of mindfulness is “the awareness that arises from paying attention, on purpose, in the present moment and non-judgementally, to the unfolding of experience, moment by moment” (Kabat Zinn, 2003, p. 145). While they did not necessarily articulate it verbally in their explanations of mindfulness, it was sometimes possible to see glimpses of this awareness arising from the words of even very young children: “When I was going to the park, I saw this river and trees with it and I felt lucky because I was close to nature with a lot of animals and colours. I have never noticed the river and the trees” (Figure 11).

Figure 11:

Mindful Awareness in Nature



(Boy Age 8)

But perhaps the most profound understanding of mindfulness came from an 11-year-old girl who captured a 2,500-year-old philosophy in one simple sentence: “Mindfulness is a way to escape the hamster wheel that is the human mind” (Girl Age 11).

4.2 Theme 2: Translating Understanding into Practice

Following on from children’s conceptual understanding of mindfulness, Theme 2 explores how children translated this understanding into practice. Data illustrating their methods of mindfulness practice facilitated a detailed account of how children applied and integrated mindfulness into their daily lives.

This section describes the children’s methods of practice both as individual and as shared practice within a community. Based on analysis of reported methods, individual mindful practice will be discussed under the main headings of: Mindfulness of the Senses; Mindful Breathing; and Additional Methods of Mindfulness Practice. Mindfulness Practice within Community will be discussed under the headings of Mindfulness Practice at School; Mindfulness Practice within Family; and Practising Mindfulness with Friends.

4.2.1 Mindfulness of the Senses

While broad descriptions of practice often placed a generic emphasis on attention and awareness: “You practise by being more aware and by paying attention” (Girl Age 12); “Just live in the moment and pay attention to the things all around you” (Girl Age 11); more specific responses of practice in action often related to the many mindful sensory

techniques practised in class: “Breathing, looking out a window, using mindful ears, mindful eyes and mindful touch” (Boy Age 11); “Going on walks and using your senses to notice everything. Take a few deep breaths and notice them” (Girl Age 12); “... use your senses to take in everything around you” (Girl Age 12); with one boy giving an in-depth explanation of how he practised with each of his senses to tune in to the present moment:

Mindfulness practice can be anything, but it must involve taking yourself to the present and it must involve using a sense. I do mindful breathing, mindful listening, mindful looking (looking for all the colours of the rainbow), mindful eating (eating and thoroughly tasting), mindful feeling (feeling your feet or FOFBOC). (Boy Age 12)

Many children described specific multi-sensory practices: “I eat, breathe [breathe], run, play and write mindfully” (Girl Age 11); “Sit on a chair and feel around you or go to the park and feel the breeze smell the air and relax” (Boy Age 12); “If you are on a nature walk, looking at the scenery, listening to the birds, smelling the flowers and touching the nature” (Girl Age 9). Others reported on practices that employed one sense at a time: “Feel your toothbrush/toothpaste when you are brushing your teeth” (Girl Age 11); with one boy demonstrating that every moment of the day provides an opportunity for mindful awareness: “You practise mindfulness like an everyday thing like eating breakfast” (Boy Age 11).

However, it was clear from examination of data that the two most common sensory practices employed by children were those of mindful listening and mindful looking.

4.2.1.1 Mindful Listening. Children were introduced to mindful listening in the classroom with the support of a Tibetan singing bowl. Children closed their eyes and when the bowl was struck with a soft mallet, they listened in silence to the ongoing harmonious sound, raising their hand when they could no longer hear it. Such was the enjoyment of this activity that the practice became an integral introduction to every mindfulness lesson, from Infants to 6th class, with many children requesting details of where they could purchase their own singing bowl for home use: “I liked the singing bowl [bowl] because I could hear it ringing for ages” (Boy Age 9). One girl described how she could still recall the sound at a later time: “I sort of imagine it like sound waves travelling through the air into my head and then I can hear it” (Girl Age 10).

Children were eager to practise this new skill of mindful listening and equally keen to describe their experiences each week. They sought opportunities to practise at home: “In bed I did some mindful hearing [listening] to go to sleep. I could hear the wind blowing” (Girl Age 8); “When I practised mindful listening, I heard me breathing, my dad laughing

[laughing], cars, lights turning on, my bro moving, the TV” (Boy Age 8); “I listened to some classical music and guessed what instruments were playing. I had to listen hard” (Girl Age 9); and they practised at school: “I heard the clock, the door opening, Ms. X coughing and the projector” (Girl Age 9).

From a restaurant to a sports match, they implemented the practice of focused listening away from the classroom: “In a restaurant I heard people, doors closing [closing], people eating, doors opening, moving chairs, dogs barking” (Girl Age 8); “At a match I heard birds singing, people saying come on Ressa, children having fun, people saying what a point, people saying Yesss” (Boy Age 8).

Children were excited to relay their experiences of intentional, attentive listening in the outdoors, with its abundance of practice material: “When I practised mindful listening I heard trees, birds, my dog, ice cream van, a window opening, my mom” (Girl Age 9); “I heard birds humming, wind, metal scratching, cars starting, my breath, my steps” (Boy Age 9); with many children recounting that they were now paying attention to sounds they wouldn’t normally hear: “I went to the park for a mindful walk. I could here [hear] lots of rain dropping down” (Boy Age 8); “I heard birds, wind, trees, footsteps, sticks crunching, people” (Girl Age 8); “I heard birds singing, I heard the wind blowing, I heard the leaves scamper along the ground” (Boy Age 8).

One boy described how raindrops provided him with an anchor for mindful practice: “You can practice [practise] mindfulness by listening to raindrops” (Boy Age 11); while his classmate had sourced an online resource with which to practise: “Listening to water dropping on my iPad” (Girl Age 11).

Children constantly identified opportunities to integrate the technique of mindful listening into daily life with one boy excited to report how he remembered to pay attention to the surrounding sounds while at the beach: “On the beach in Greystones I heard the sea, waves, ice-cream van, birds singing, wind and inside seashells” (Boy Age 9).

Through the practice of mindful listening, children developed the capacity to pay attention purposefully, in an age-appropriate and enjoyable manner, strengthening their ability to be focused and grounded in the present moment. Their enthusiasm for engagement with the technique highlights it as a valuable, foundational mindful practice and its simplicity is illustrated in the matter-of-fact reflections of two young boys who advised: “You should go to the park ... and just hear stuff” (Boy Age 8); “Say if there’s a bird outside you can listen to them singing more” (Boy Age 9).

4.2.1.2 Mindful Looking. The technique of mindful looking teaches children to purposefully look closely at objects in their immediate environment. Children were encouraged to engage their visual sense with awareness and attention, in order to notice details such as colour, texture, shape, etc. and in doing so, be tuned in to the present moment through focused observation of their surroundings.

Children described how they practised this technique by: “Going out for a walk and noticing everything” (Girl Age 12); “... looking at your surroundings and taking everything in” (Girl Age 11).

Once again, children looked for opportunities to practise at home with one child describing her efforts to notice everything in her bedroom: “I saw teddys [teddies], my bed, homework, posters, books, blanket” (Girl Age 8). Another young boy demonstrated a deep understanding of the practice by focusing on the early morning sky from his bedroom window: “When I woke up it was realy [really] early in the morning. I looked out up into the sky and I realy [really] focused on the coulors [colours] of the sky and all the leaves” (Boy Age 8).

As with the practice of mindful listening, the outdoors provided great opportunities for mindful looking, with children reporting how they noticed objects that were always there, as if for the first time: “I started to look at the flowers and everything around me” (Girl Age 8); “I went to the park and notice [noticed] a huge big tree” (Girl Age 8); “In the park I saw a bird makeing [making] his nest, a sulg [slug], bees, butterflys [butterflies], birds, flowers bolwing [blowing] in the wind” (Girl Age 8).

Children made efforts to engage with mindful looking whenever the opportunity presented itself: “On my way to school in the car I saw trees, cars, people, traffic lights, streetlamps and the park” (Girl Age 8); “I did mindfulness [mindful] seeing when I was doing a long walk” (Boy Age 9).

Within the youngest Infant classes, children described when they truly “noticed” their surroundings: “Well when I was going to Dundrum, I looked at all the flowers ... and grass ... and all the other things ... like the trees ... and the houses ... and the sky ... and the clouds ... and the things that were passing by” (Boy Age 6). “J in Junior Infants was very eager to deliver his mindfulness news. He spoke very slowly, pausing frequently as if he was recapturing the moments of his mindful journey” (Researcher Field Notes).

From a sports stadium to a ballet rehearsal, children were keen to describe unusual situations where they saw newfound opportunities to develop the practice: “Yesterday I went to Tallaght stadium to see Ireland under 21s hammer Luxemburg with

my football club and on the way I looked at all the different green jerseys people were wearing” (Boy Age 9); “One Sunday I was at a dress rehearsal for my ballet show and I was really looking at the other costumes [costumes]” (Girl Age 8).

Through the practice of intentional, mindful looking, children began to develop the capacity to engage with their immediate environment with a new sense of non-judgemental curiosity, further expanding their ability to ground themselves in the present moment through sensory awareness.

4.2.2 Mindful Breathing

Data highlighted that mindful breathing techniques, where children tuned into the breath and body, were for many children, the primary method of engagement with individual practice: “I practise by being present and listening to my breathing” (Boy Age 12); “Sometimes you close your eyes [eyes] and breathe [breathe] slowly” (Girl Age 8).

While Theme 3: Using Mindfulness as a Mechanism for Self-Regulation will describe many instances of how children used the breath as a tool with which to self-regulate, this section aims to present an account of the specific breathing techniques favoured by the children and how they utilised them during everyday occurrences. However, when discussing occasions of mindfulness practice with the breath as described by the children, it proved impossible to separate inherent references to self-regulation that often accompanied their descriptions.

Some children listed a variety of breathing techniques employed in their practice: “Finger breathing, dot B and balancing things on your belly (when breathing) are ways I practise mindfulness” (Boy Age 12); “Every night I do difrend [different] breathings like seven eleven, finger breathing, petal breathing, number breathing” (Girl Age 8). As part of practice, one boy enjoyed the co-ordinated breath/body movement practised in class with some of the techniques: “I just like breathing! Because there are lots of different types and I enjoy moving my hands around when I am doing it” (Boy Age 10).

A significant finding revealed by data showed that while mindfulness sensory practices and other methods discussed in this section were implemented by children as enjoyable, fun activities with the aim of becoming more mindful in their daily lives, the decision to employ a breathing technique as opposed to another method of practice, was often linked to a need for self-support: “When I was in Irish dancing I was nervous to do my step but then I used some mindfulness [breathing] and it helped me” (Girl Age 9); “I can’t do tumbles in swimming. I was stressed and upset that I couldn’t do them, so I used mindfulness breathing” (Boy Age 12). Additional evidence of this finding is threaded

through many of the children's descriptions of the specific breathing practices with which they engaged.

Choosing from the breathing techniques most favoured by the children as revealed by data, this section will focus on the practices of Finger Breathing; 7-11; Petal Breathing; Buddy (Teddy) Breathing; Breathing with a Hoberman Ball; and Stop Drop and Breathe.

4.2.2.1 Finger Breathing. Finger Breathing where children moved a pointer index finger slowly up and down the fingers and thumb of the opposite hand as they inhaled and exhaled in tune with the movement, proved to be a hugely popular breathing technique with many children rating it as their number one, go-to breathing practice: "I did finger breathing when I was putting in my diabetes needle" (Girl Age 9); "When I [was] in swimming I fell and I done [did] the finger breathing" (Girl Age 9).

Selecting from the many descriptions within the data, a significant scenario was reported by one boy who saw the opportunity of utilising the technique as a coping mechanism when visiting the dentist:

Well I had to get a new gum shield because all the other ones were all dirty so I went to the dentist, and he said I have to keep calm or else I could swallow the mould and I thought it was a perfect time to do mindfulness, so I used finger breathing and I got through it well. (Boy Age 10)

Data highlighted occasions where Finger Breathing practice was prompted as a response to children picking up on emotional cues of adults around them: "I got stuck in traffic [traffic]. And my dad trided [tried] to get to our hotel but he could not. And then I did finger breeding [breathing]" (Boy Age 8). This method of utilising a breathing practice to self-soothe in a tense situation was illustrated further in another car journey: "I was going to Cork for my cousins [cousin's] birthday and to see my godmother. And are [our] car breaking down. I did the finger breathing and it really helped" (Boy Age 10).

When asked why Finger Breathing was such a popular practice option, responses were varied with many rating its success as a support mechanism: "... it helps me the most" (Boy Age 10); "... it is the most successful for me" (Boy Age 11); "... it is the easyist [easiest] one to focus on" (Boy Age 11). Other responses focused on its brevity and practicality: "... it is nice and short but still good" (Boy Age 10); "... because I don't need any equipment to use it" (Girl Age 11).

When the practice was not born of a need for support, responses were somewhat different: "... it is nice and peaceful" (Boy Age 10); "... it's just very relaxing" (Girl Age 9);

with some children additionally immersing themselves in a sensory practice of touch: "... it feels warming" (Boy Age 9); "... it feels good on my fingers" (Boy Age 9).

4.2.2.2 7–11 Breathing. The breathing practice of 7-11, inhaling deeply for a count of 7 and exhaling slowly for a count of 11, is widely recognised for its ability to engage the parasympathetic nervous system and counter the "fight or flight" stress response. As part of their mindfulness programme, it was taught to children as another practice by which they could tune into the breath and body to ground themselves in the present moment. When practised in class, the emphasis was to ensure the exhalation was longer than the inhalation and as such, the numbers of 7 and 11 were lowered to adapt the practice to the age levels and physiques of the children. However, regardless of the count to which they breathed; children always referred to the practice as 7-11.

Although not taught as a specific stress management technique, both younger and older children appeared to develop an innate understanding of the practice to soothe and calm the mind as documented in their reports on practice: "I fell off a tree and did seven eleven" (Boy Age 8); "I was having an actual panick [panic] attack about growing up and secondary school at nighttime, so I used the 7-11 breathing technique to calm me down and get to sleep" (Boy Age 12).

Responses as to why children chose this practice over others ranged from its simplicity: "... it was so easy to do" (Girl Age 10); "... it was easy and efficient" (Boy Age 11); to its ability to calm the mind: "... it calmed me down quiet [quite] quickly" (Girl Age 11); to its ability to support sleep: "... it helps me to fall asleep" (Girl Age 12). But perhaps the most significant response came from a girl who appreciated its value to support mindfulness: "... it helps me stay focused on being present" (Girl Age 11).

4.2.2.3 Buddy (Teddy) Breathing. When teaching the mindfulness programme, the practice of placing a soft toy as buddy on your belly while lying down and tuning in to the rise and fall of the toy as you breathe, was a breathing practice initially taught only to the very young children in Infant and 1st classes. As most children chose a teddy as their breathing buddy, children regularly referred to the technique as Teddy Breathing.

The Images below (Figure 12) serve as a sample of the many reports of young children's engagement with this practice at home.

Figure 12

Teddy Breathing



(Boy Age 6)



(Girl Age 7)

However, an illustration of this technique on a breathing poster designed to support children's home practice sparked the curiosity of older children, many of whom later reported that they engaged with the practice at home and found it very enjoyable and relaxing: "I am lying [lying] on a rug and a teddy is on my belly and I feel my breathing and the teddy going up and down and no noise" (Girl Age 8); "Toy on your chest. It is very relaxing closing your eyes" (Boy Age 10).

Children viewed the practice as an activity which allowed them to tune into the breath and physical body in a fun manner: "I liked when my teddy went up and down" (Girl Age 11). From younger to older, the practice of focusing on the toy to anchor attention, concentrating deeply to prevent the toy from falling off the belly, proved a favourite breathing technique with all: "J does mindful breathing at night with a teddy before going to sleep" (Parent/2nd class boy); "M places a toy on his stomach to practise mindful breathing" (Parent/5th class boy).

Some children favoured buddy breathing as a choice of practice for its ability to calm the mind: "Teddy breath [breathing] makes me happy and not mad at my sister [sister]" (Girl Age 10); "It calmed me more than the other ones" (Girl Age 10); "... because teddys [teddies] always calm me down" (Girl Age 10); "It worked the best for me" (Boy Age 10); but very often, simply because "... it is fun" (Boy Age 10).

4.2.2.4 Petal Breathing. Analysis of data indicated that Petal Breathing also proved to be a very popular choice for mindfulness practice. As with Finger Breathing, it required no equipment except the hands, which were slowly opened and closed like flower petals, in tune with the inhalation and exhalation of the breath.

Data pointed to its practice in a wide array of contexts. From over excitement: “Yesterday I did petal breathing because I wanted fly youth to win Irelands [Ireland’s] got talent” (Girl Age 9); to engagement with the practice as self-support after destroying new shoes: “I puked all over my new shoes so I used pettel [petal] breathing” (Girl Age 9); children allowed the breath, in tune with the petals of the hands to anchor the attention in the present moment and restore calm.

Children described the practice as fun and satisfying: “I like the petal breathing because it is fun to watch ... and also satisfying” (Girl Age 11); it was calming and simple to perform: “I found it was the most calming” (Boy Age 11); “I liked petal breathing because it’s easy to do” (Girl Age 9).

Whether perceived as fun, satisfying, calming or easy, data highlighted the significance of Petal Breathing (Figure 13) as an effective tool for supporting mindful breathing practice and as described by one child, the potential for its application is never-ending: “If you have a loud [load] of things to do and you have lost something you can do pettal [petal] breathing” (Girl Age 9).

Figure 13

Petal Breathing



“I do petal breathing on my bed” (Boy Age 9)

4.2.2.5 Hoberman Breathing. For many children, engaging in mindful breathing with the Hoberman breathing ball proved to be a particularly enjoyable practice both in school and at home. The kinaesthetic approach of coordinating the expansion and contraction of the ball with the inhalation and exhalation of the breath, combined with its supportive visual imagery of how the body breathes, allowed children of all ages to understand and engage with the process of slow, deep breathing in a highly effective manner.

Many children reported that they had added a Hoberman to their Santa list and were excited to report the calming and relaxing effect of this new method of practice: “I do it every night and it helps me to be calm before I go to bed with my hoberman” (Girl Age 9); “I do the Hoberman because it goes in and out like your belly and its [it’s] relaxing” (Boy Age 9); “I can calm myself by thinking of the hoberman going in and out” (Girl Age 9); “I pretend I have a hoberman and I move my hands in and out with it” (Boy Age 10).

Children described the effectiveness of the hoberman to support deep breathing and calm the mind in a fun manner: “... because you get to breath [breathe] slowly” (Girl Age 11); “It’s a fun way to relax and calm down” (Boy Age 10); “It’s fun and helpful” (Boy Age 11); while for one boy: “The hoberman was my favourite because the hoberman looks cool” (Boy Age 11).

4.2.2.6 Stop Drop and Breathe. The practice of stopping, dropping into yourself (to check in with how you are feeling) and breathing deeply, was taught to children as a mindful restorative practice of breath and body. As with other breathing practices, data revealed that children engaged with this practice at home when they needed to self-support: “I Stop Drop and Breathe when I am breaking open my Geodes (Rocks with Crystals [crystals] inside) They are really hard to open so I stop drop and breathe” (Boy Age 9); “I STOP, DROP BREATHE when I get worked up on something that is not worth get [getting] worked up on” (Girl Age 9).

Data analysis pointed to a significant finding in that many children took their own meaning from the term “Drop” in this practice (Figure 14), adapting it to a method that they considered practical and meaningful: “You just stop what yor [you’re] doing drop everything in your hands and just breathe” (Boy Age 8).

Figure 14

Stop Drop and Breathe



(Boy Age 8)

Regardless of the interpretation, children found it helpful and effective to tune into the moment with Stop Drop and Breathe, and based on their own experiences, reported engaging with the practice "... when you are having a bad day" (Girl Age 8); "... when you are fighting [fighting]" (Boy Age 8); "... when you need to consintrate [concentrate]" (Girl Age 8); "... when someone has hurt you" (Boy Age 9); with one boy showing awareness that: "It makes me feel calm and ready for the next thing" (Boy Age 9).

While data revealed that children favoured certain breathing practices over others, as depicted in the specific techniques discussed, some children were eager to point out: "I liked them all the same" (Boy Age 9); "I liked all of them they helped me clear my mind" (Girl Age 10); with one boy mindfully tuning in to his sense of touch and reporting that he was happy to choose any method that was practised in a lying position: "... because the floor feels nice and smooth" (Boy Age 9).

4.2.3 Additional Applications of Mindful Breathing Practice

Analysis of data relating to children's personal practice reflected a noteworthy finding of children applying mindfulness breathing techniques to support a range of additional events and experiences in their lives, outside of applications discussed in class. From the many reports of this nature detailed by the children, this discussion will confine itself to how they used mindful breathing to support homework; sports; sleep; and pain relief.

4.2.3.1 Homework. There were several reports of children using a mindful breathing practice to support them with their homework. They discovered that by taking a break to focus on their breathing, concentration was improved, allowing them to approach tasks with a fresh approach: "When I was doing my homework and I couldn't concentrate I did belly breathing and it helped" (Girl Age 10); "I was stuck with my homework. I went into the living room and did some finger breathing. After I concentrated better and I got the answer correct" (Boy Age 8). This restored ability to concentrate following a breathing practice was described by one girl as being able to "think hard": "Once when I was doing my homework, I was not quite sure what I was doing so I did some mindful breathing and then I tried to think hard and I got the answer right" (Girl Age 8).

Children's accounts of using mindfulness techniques to support homework were further supported by reports from parents: "Homework is a very stressful time. Breathing exercises take away the anger and help him focus" (Parent/3rd class boy); "Our son sometimes gets cross or down with himself while doing his homework. We got him to

show us what he has been learning and now take a couple of minutes to do what he calls “finger breathing” when this happens” (Parent/2nd class boy).

One boy explained how remembering to do a breathing practice eased his frustration during homework and allowed him to continue: “I was getting annoyed [annoyed] at myself because I can’t do my homework. But then I remember [remember] my mindfulness [mindfulness] breathing after doing it I can do my homework” (Boy Age 9).

From dealing with distractions: “I was trying to do my homework and my sister kept [kept] shouting and I used the finger breathing” (Boy Age 10); to coping with challenging tasks: “In my homework there was a really [really] hard question [question] so I did finger breathing” (Girl Age 8); children reported that taking a break to tune into the breath, appeared to ease stress, restore focus and facilitate a calmer approach to their homework tasks.

4.2.3.2 Sport. Both on and off the pitch, reports from children and parents highlighted children’s engagement with mindful breathing practices to support sporting activities. “It has helped [helped] me because when I’m playing a sport like football if I don’t score I get mad. After I do breathings” (Girl Age 9). “I have noticed my son using mindfulness techniques following and during sport” (Parent/6th class boy); “T was playing football and was in goals. He let a goal in and felt very angry. He told me he took a deep breath to calm down” (Parent/3rd class boy).

There were many reports of breathing practices prior to a sporting event to focus and ground themselves in the present moment: “I used mindfulness breathing before playing a match” (Boy Age 12); “I use it before big things like my football match” (Boy Age 10); “Whenever I play sport I always use it” (Boy Age 10).

One young boy was eager to describe his drawing of his rugby tour bus (Figure 15) and explained how he was able to defuse his nervousness with 7-11 breathing: “This is me on my rugby tour going down to Garryowen [Garryowen]. I was getting nervous [nervous] so I did seven eleven. And after that I felt much better”.

Figure 15:

Mindful Breathing on the Rugby Bus



(Boy Age 8)

Among the many descriptions of “off the pitch” sports related mindfulness practices, Liverpool fans appeared to have a monopoly on sports-related stress: “During the champions league semifinal cause I support Liverpool I used finger breathing to relax myself” (Boy Age 11); “During the Liverpool vs Roma match I was so stressed so I used finger breathing. PS I am a big Liverpool fan” (Boy Age 11).

A most interesting finding was how some children had the self-awareness and skill to employ mindfulness practices while on the pitch: “I was in a match. I missed a penalty and I used finger breathing to help me get over it” (Boy Age 12); “I was in a basketball match and we were losing and I used mindfulness to clam [calm] myself down” (Girl Age 10). This ability to breathe mindfully and regain composure quickly in a high stress situation, showed a remarkable level of resilience for children of their age, who now had a life-skill to navigate such challenges in the future.

4.2.3.3 Sleep. Although the topic of sleep was not part of the mindfulness programme, children intuitively made the connection between the calming, relaxing impact of mindful breathing and falling asleep: “I could not go to sleep at night and I took a few small breaths and it made me tired and I fell asleep” (Boy Age 10).

It was surprising to hear many young children talk about having difficulty sleeping on an ongoing basis but they were delighted to report that they had found a solution with mindful breathing practice: “I used to sleep terribly before the course but if I ever wake up I just use one of the [breathing] exercises and get back to sleep” (Girl Age 10); “There was a time I find [found] it very hard to sleep and 7-11 really helped” (Boy Age 12).

Further evidence of children using mindful techniques to support sleep was reported by parents: “Sometimes if L wakes up in the middle of the night she used the finger-breathing technique to calm herself down and get back to sleep” (Parent/3rd class

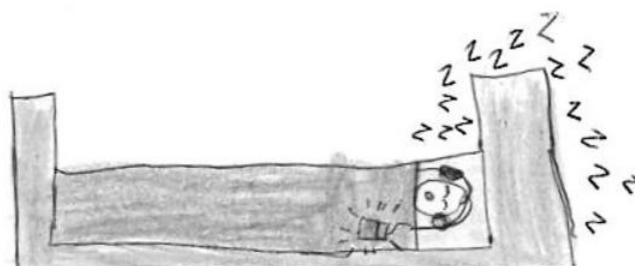
girl); “My daughter told me she sometimes uses mindfulness to get to sleep ... the breathing exercises ... you know the ones we learnt in school” (Parent/3rd class girl).

Children described situations where Buddy Breathing was utilised to resolve the difficulty of being unable to sleep: “One night Áine snord [snored] so lowd [loudly] I cud [could] not go to sleep that I did the teddy mindfullnis [mindfulness]” (Boy Age 8); “I could not sleep so I did the teddy brthing [breathing] and it helped me a lot and in 5 minutes I fell asleep” (Girl Age 8).

Data highlighted multiple instances of children learning to apply mindful breathing practices in a meaningful way to meet their need of supporting sleep with one girl adapting and personalising the practice to incorporate a combined practice of breathing and mindful listening: “Sometimes when I can’t go to sleep I put on some mindful rain drops and do some mindful breathing” (Figure 16).

Figure 16:

Mindful Listening to Rain Drops to Aid Sleep



(Girl Age 9)

4.2.3.4 Pain Relief. Another interesting finding brought to light by data was how some children used mindful breathing techniques as a support tool to manage feelings of physical discomfort: “When I felt sick I did finger breathing and I felt better” (Boy Age 8). This sometimes extended from managing minor aches: “When I hurt my head I did some mindfulness [breathing] and it helped me” (Boy Age 8); to more severe pain: “I stopped [stubbed] my to [toe] and it was sore so I did teddy breathing” (Boy Age 10).

Although managing severe pain now forms part of adult mindfulness based cognitive therapy programmes, where participants learn to disentangle the related challenging thoughts and emotions from the actual physicality of the pain, this technique did not form any part of the children’s school programmes. It was therefore astonishing to find within the raw data, a description of an occasion where a 10-year-old boy was able to

reduce severe pain through focused breathing: “I recently broke my jaw in two places and I was nervous going to the hospital so I did the petal breathing. It relieved the pain when I broke my jaw” (Boy Age 10).

4.2.3.5 Reports from Parents. There were many reports from parents of children’s practice of mindful breathing. From the very youngest children relaxing in their bedrooms ... “J went up to his bedroom with his poster on breathing and stayed on his own for a short while. Told me he was practising his breathing” (Parent/Junior Infant boy); “She does a counting finger breathing exercise when relaxing or ready for bed” (Parent/Junior Infant girl); to the oldest using it to self-support ... “My 2 children use mindfulness all the time and daily. For chess tournaments, Poetry Feis or swimming galas they have used mindfulness to help them deal with nerves” (Parent/5th and 6th class boys); it was clear that children intuitively integrated mindful breathing into the fabric of their daily lives, utilising and adapting breathing techniques to support themselves and enrich their lives in a variety of situations.

4.2.4 Additional Methods of Mindfulness Practice

Despite a focus in class practice on mindfulness techniques based on the breath, body and senses, many children were drawn to finding their own preferred methods of engaging with home practice, through activities such as, mindful colouring, art and reading. This demonstrated an intuitive understanding of mindful practice as any activity that allows you to focus attention and awareness on the present moment and led to children choosing practices that resonated with them in a personal way. “You can practise anytime anywhere” (Boy Age 11); “I just do some art and drawing” (Girl Age 9).

4.2.4.1 Mindful Art and Colouring. It was clear from children’s comments on art-related practice that they understood how a mindful practice is underpinned by paying attention in the present moment: “You can do drawing or colouring. Because they are good to just get your attention on it and forget about everything else cos you’re doing this now and that’s for later” (Boy Age 8).

Equally with mindful colouring, children were aware of focus and concentration as being at the centre of the practice: “Today I was doing some colouring and I was really concentrated and I was very focust [focused] on keeping it in the lines” (Girl Age 7). Another young girl’s reflection suggested a heightened awareness of colour as her mindful activity allowed her to tune into the present moment “Today I did mindful colouring and I consentrated [concentrated] so much and I used a lot of colour on the owel [owl] lik [like] green pink blue and red and sume [some] other colours” (Girl Age 8).

Once again, children had found a practice that was enjoyable and personally meaningful to them as a further method of being grounded in the moment.

4.2.4.2 Reading. Many children described engagement with mindful reading when recounting their methods of practice: “Yesterday when I went to my bedroom I went to my bed and I sat their [there] so I got my book and I did mindfuness [mindful] reading” (Boy Age 8). When asked to explain why reading is of value as a practice to support being mindful, children noted its ability to support focus and concentration: “You can read and focus on every word” (Boy Age 8); “You’re concentrating on the words” (Boy Age 8).

Again, children demonstrated that reading mindfully as a practice, involved reading slowly with focus and attention, with one girl additionally using the sense of touch to pay attention to the actual feel of the book: “Every nighth [night] I go to bed I read my book and I really pay attention to the feeling of the book and words. It just feels nice to be warm and cosy in my bed reading mindfully” (Girl Age 8). It was clear that this child was immersed in a mindful experience of present moment awareness, with the practice supporting a peaceful, focused state of being.

4.2.5 Finding Own Methods of Practice

In addition to the many techniques introduced during the programme, in-class discussions, where children recounted how they practised at home, revealed a host of other methods of mindful practice with which the children engaged. From sports to chess to athletics, children continually placed emphasis on focus and attention as foundational to their preferred methods of practice:

Researcher: What other activities do you do that are good for practising being mindful?

Boy 1: Play a game of rugby because you have to keep your attention on the ball

Boy 2: You have to pay attention to what you’re doing in chess because you have to focus on which move you’re doing and everything

Girl 1: Puzzle because you need to focus to find the pieces

Boy 3: Soccer because you have to focus on where you are kicking the ball

Girl 2: Reading a book because you really need to focus to get the words right and to imagine it. (3rd class Ages 9 - 10)

A similar discussion in 4th class yielded a different list of activities that brought them to the present moment through focus and concentrated attention:

Boy 1: I do origami 'cos you have to focus on folding the paper

Girl 1: I do some sewing because you have to pay attention to it

Girl 2: I do something that not many people do, I design some clothes

Boy 2: Sometimes you could climb a tree 'cos you need to concentrate on which branches to use 'cos otherwise you might slip off and fall. (4th class Ages 10 - 11)

Some children favoured games as mindful practice: “On Saturday I went to the park. I played lots of games that I really had to pay lots of attention on all of the games” (Girl Age 9); “I was playing chesse [chess] with my sister and I relly [really] focus [focused] on where I was going to go and I won in the end” (Boy Age 8).

From tuning into the present moment by “brushing my dolls hair” (Girl Age 11); to “sitting in a quite [quiet] place and reading a good book” (Girl Age 8); to “going to the park and you notice stuff and do some breathing if you want to” (Girl Age 8); children demonstrated a natural ability to engage with individual mindful practices in ways that were personally meaningful, enjoyable and fulfilling, with one child succinctly articulating her feelings regarding choice: “You can do any mindfulness you like because it’s your life” (Girl Age 8).

4.2.6 Mindfulness Practice within Community

A core aspect of this mindfulness study was a whole-school community approach inclusive of school principal, school staff and parents/guardians. This fostered a supportive environment in which to support children to integrate the practice of mindfulness into the fabric of their daily routines in school, at home and with friends.

4.2.6.1 Mindfulness Practice at School. Following completion of the project, many teachers incorporated mindful breathing and sensory practices into class routines, further reinforcing and promoting a shared school culture of mindful awareness. Data described shared mindful calming practices as lesson transitions: “We do the mindfulness melting on Go Noodle in the classroom” (Boy Age 8); “We did mindfulness with our teacher. We did the finger breathing most of the days. It relaxed us when we were hiper [hyper]. After we were all came [calm]” (Girl Age 9).

Children reported being quite happy to practise in front of peers in the classroom as there was now a shared understanding of what was taking place: “I did some flower breathing in school today to keep calm” (Boy Age 8); “When I forgot my maths book I did the mindfull [mindful] breathing to calm myself down” (Boy Age 10); “Last Wednesday some people were being mean to me so I ignored them and done [did] finger breathing” (Girl Age 9).

Data documented class outings with teachers encouraging mindful sensory practice: “When we went to the park we had a mindful walk with a ladybug” (Girl Age 8); “We went on a walk to the park and listened to all the sounds around us” (Girl Age 8).

Prior to the mindfulness programme, the school had engaged with an initiative of “Mindful Mondays” where teachers and children engaged in short mindfulness practices

and activities as part of the regular school day. This initiative continued along with whole-school mindful practice at assemblies; whole-school kindness days and whole-school gratitude activities, organised in classrooms by individual teachers.

This continuity allowed children to experience mindfulness as a standard part of the school day, further fostering a collective, whole-school engagement with the practice of mindfulness as a normal aspect of school life.

4.2.6.2 Mindfulness Practice within Family. The inclusion of parents/guardians as part of the whole-school community played a fundamental role in extending children's practice outside the school environment and in shaping children's perception of mindfulness not just as a school activity but as a routine aspect of family life.

Data provided evidence of parents participating in practices with their children, creating a consistent approach across home and school and allowing mindfulness to be integrated into the fabric of the wider family community.

4.2.6.3 A Shared Language of Mindfulness. The involvement of parents enabled a greater understanding of their child's learning and facilitated a shared mindfulness language by which parents could support their child by connecting practice between school and home: "I got frustrated with my homework and my dad said should we do mindfulness. I said yes. We went upstairs. Me and my dad did finger breathing, petal breathing and the seven eleven. Afterwards I felt good" (Boy Age 8).

This shared language within normal conversation, often extended beyond parents to grandparents: "I was telling my Nana and Grandad about mindfulls [mindfulness] things like petle [petal] breathing" (Boy Age 8); and to siblings who were also participants in the project: "One day I was in the park and I was concentrated on the trees and the wind but my sister was concentrated on school so I said to my sister do some mindfulness" (Boy Age 8).

Analysis of comments from parents provided further evidence of this shared language: "The whole family now has an awareness of mindfulness and has a value for it. Breathing techniques are wonderful for us all" (Parent/3rd class boy); "T noticed his food and food textures in recent weeks and I pointed out to him that he was doing mindful eating" (Parent/3rd class boy). From family discussions: "We have talked about his mindfulness toolbox" (Parent/3rd class boy); to children explaining techniques to parents: "She speaks to me about what she has learned and demonstrates when sad or angry how to breathe mindfully" (Parent/Junior Infant girl); to parents developing an understanding of how to support their children with mindfulness practice: "When she is starting to get

stressed, I ask her to start her mindful breathing” (Parent/4th class girl); there were many reports of children and parents developing a shared language of mindfulness as community.

4.2.6.4 Mindful Breathing Together. Children were eager to teach their newfound breathing techniques to parents and data highlighted many occasions of children and parents breathing together, with the parent learning from the child: “I taught my mum mindfull [mindful] breathing” (Boy Age 9); “I taught the finger breathing to my mum. We sit down and do it together” (Boy Age 10); while one boy indicated ongoing breathing lessons on consecutive days: “On Saturday I was doing mindfulness with my mom and we did finger breathing. On Sunday we did more mindfulness and we did petal breathing. I wanted to teach my mom mindfulness. I felt very happy” (Boy Age 9).

Numerous drawings were presented of family practice with parents: “On Sunday I did a breathing exercise with my mam” (Girl Age 9), “Me doing 7/11 with my Mam” (Figure 17); all evidencing shared supportive practice within the family environment.

Figure 17:

Breathing with my Mam



(Girl Age 9)

Reports from parents documenting how they practised with their children highlighted instances where they sometimes found their own methods of practice: My daughter and I often practise “mindfulness” when we are sitting quietly together - her suggestion and wording” (Parent/2nd class girl); “At night before bed we practise “Relaxation Meditation” – my phrase! We lie together on my son’s bed and complete a relaxing process from toes to head with deep breathing” (Parent/3rd class boy).

Data revealed many accounts of practising with the support of a blog created by the researcher to support home practice: “We listen to guided meditations together at night” (Parent/4th class girl); “We have done the finger breathing together and have done

some guided breathing meditations from the blog” (Parent/3rd class boy); “We have tried guided body scan and breathing practices from the blog” (Parent/4th class boy).

Other reports highlighted a combination of breathing with movement: “We have practised mindful breathing and mindful movement together” (Parent/4th class boy); and with focused listening: “When we finish the bedtime story we take a few minutes for our mindfulness – usually breathing and mindful listening” (Parent/3rd class boy).

Regardless of the methods employed, it was clear that engaging with family practice was an enjoyable and invaluable foundational process in the development of a mindful community: “I practised with my children on a number of occasions. We did some breathing and body scans. They not only enjoyed it but they felt it was cool that their dad was doing mindfulness” (Parent/3rd class girl).

4.2.6.5 Mindful Family Walks. Numerous reports from children described families engaging in mindful walks together: “I did a mindful walk with my family. We found ladybirds and bees and even a worm. My sister touched it” (Boy Age 8); “Me and my family on midterm week went down to Roslare [Rosslare] to my Nana and Poppes [Poppa’s] Holiday Home. There was a fairy park nere [near] where we were. So we went there for a walk around. We were all being mindful” (Boy Age 9).

Many of these walks were focused on sensory awareness: “On Monday after school me and my family went to Marly [Marlay] Park to go for a mindfull [mindful] walk. We heard birds, the wind, trees and some other people. We went by the lake and saw some ducks and swans” (Girl Age 8). Data revealed instances of families collectively engaging in paying focused attention through the senses: “This is what I do to practise mindfulness. I go on a mindful nature walk in Marley Park with my family. We use seeing, hearing and smelling” (Girl Age 10).

4.2.6.6 Mindful Listening with Family. Many family sensory practices focused collective attention on surrounding sounds; ... when walking with Dad: “I go for a walk with my dad and my dog around the river or my green and we pay attention to the noise of the birds and the wind” (Figure 18); ... with Mum; “My mum and me went for a mindful walk and on the way there was a lot of birds singing and we noticed them” (Girl Age 7); ... or as family: “Last week I went for a walk with my family and my dog on the beach and we listened to the sea and the wind” (Boy Age 9); with all shared activities fostering the development of a mindful family community.

Figure 18:

Mindful Listening with Dad



(Girl Age 9)

4.2.6.7 Mindful Looking with Family. Additionally, there were many reports of family communities focusing on purposeful observation of their surroundings through visual senses. The “Rainbow Walk”, where children had to look closely at their environment in order to find something for each colour of the rainbow, was a favourite family practice for many and sometimes extended the mindful family community to include grandparents; “I went to the park with my Mum. We did a rainbow walk. I went through [through] the rainbow four times and then we went home” (Girl Age 9); “On Sunday I went to the park with my nana and my dog Raffles and we did a rainbow walk” (Girl Age 9). A parent reported that her child had taken charge of their sensory walk: “We went on a rainbow walk in Newgrange. L explained the practice to the family” (Parent/4th class girl).

Mindful looking on family rainbow walks often turned the practice into a competitive activity: “I went on a rainbow walk with my mum. We went up to purple. It ended up like a competition” (Girl Age 9). Parents and children together deepened their mindfulness practice through experiential, shared, fun: “On Sunday I went to Marlay Park on a rainbow walk. It was fun. I paid attention to the trees, the people, the flowers and the building. My brother, my mum and my dad done [did] it with me. In the end my brother won because he found all the colours of the rainbow first” (Girl Age 9).

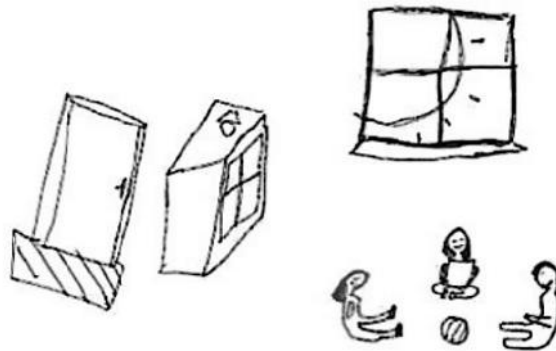
These family practices supported children in their ability to truly experience their surroundings with focused awareness in the present moment, allowing the practice of shared mindfulness activities to enhance and strengthen both family bonds and their own individual learning experiences.

4.2.6.8 Practising Mindfulness with Friends. Data demonstrated that the mindful community outside of the school environment was extended beyond family, with children regularly reporting engaging in mindful practice with their friends: “I was in the park and I did the rainbow walk with my friends” (Girl Age 10); “I went on a nature trail with our brownies in Larch hill and we had to look for leafy trees and we had to be very mindfull [mindful] to find everything” (Girl Age 9).

There were many additional reports of children engaging in shared activities of mindful focus with friends in a fun manner, with one child inventing a mindful game (Figure 19): “I played a mindfulness game with my sister’s friends with a ball. They had to concentrate on the ball and where it was going and they had to stay sitting mindfully.”

Figure 19

Mindful Ball Game with Friends



(Girl Age 9)

4.2.6.9 Teaching Mindfulness to Friends. In a manner that deepened their own practice, children were eager to report how they became mindfulness teachers within their community of friends. “I am explaining flower breathing to my friend” (Figure 20); “I am trying to show my frinds [friends] that are not in this school mindfulness. I am showing the teddy on your belly” (Girl Age 8). While breathing techniques were the most widely taught practices, one boy was keen to point out that being mindful extended to a wider range of activities: “I am telling my friend that mindfulness [mindfulness] is not all about breathing. It is about hearing and listing [listening]” (Boy Age 8).

We have often heard the saying that “the best way to learn something is to teach it”. Be it with friends or family, children “teaching” mindfulness techniques to others within their personal community demonstrates a strong appreciation of the practice and communicating the message to others in their community can only reinforce and strengthen their own learning.

Figure 20:

Explaining Flower Breathing to My Friend



(Boy Age 8)

4.2.7 Summary

The adoption of a whole-school-community approach allowed children to integrate mindfulness practices into their daily lives, in school and at home, through individual practice and shared practice within a community of peers, family and friends.

Through examination and analysis of the countless reports of home practice provided by the children, data indicates that they engaged with many mindful practices with particular emphasis on paying focused attention through multi-sensory approaches.

Data revealed that children mostly engaged with the breath as a tool for mindful practice, incorporating it into their daily lives in diverse ways and for a variety of personal motivational reasons. Whether for the development of focused mindful presence or as a support for managing everyday challenges, or teaching breathing techniques to family and friends, their engagement illustrated their ability to adapt and utilise the practice of mindful breathing to meet their specific needs and enhance their lives.

Children also found their own preferred methods of practice and reported engaging with art, colouring and reading as activities that supported the ability to be mindful. From rugby to chess; from origami to sewing; from listening to raindrops on an iPad to brushing a doll's hair, children found ways of anchoring their attention in the present moment through activities that resonated with them in a meaningful and enjoyable way.

This individual approach is illustrated in the words of a 9-year-old girl who in a tongue-in-cheek manner describes her application of a mindful breathing practice to wind

down before bedtime but through her own agency, she makes a small adaptation to make it meaningful and personal: “Some time I do mindfulness befor [before] I go to bed. I do 10 breths [breaths] and then 1 for good look [luck]” (Girl Age 9).

4.3 Theme 3: Mindfulness as a Mechanism for Self-Regulation

Self-regulation is a foundational skill that empowers children to manage challenging thoughts, emotions and behaviours and thereby plays a major role in supporting personal wellbeing. This section outlines how children’s conceptual understanding of mindfulness and subsequent mindfulness practices led to their developing the ability to employ mindful self-regulatory techniques to self-support whenever the need arose.

The findings for this theme are laid out according to the following subthemes and sub-subthemes:

Development of Emotional Self-Awareness: Identifying Internal Weather; Recognising the Need to Self-Regulate

Emotion Regulation: From Identification to Intervention; Changing Internal Weather; Calming Down; Managing Specific Emotions; Supporting Emotion Regulation within the Wider Community

Self-Regulation with the Hot Cross Bun: Breaking the Cycle; Implementing a Non-Reactive Response

4.3.1 Development of Emotional Self-Awareness

Older children in the upper classes demonstrated the ability to be aware of and name inner emotional states from the commencement of the programme: “I reconise [recognise] my emotions and feel upset sometimes” (Girl Age 10); “Sometimes I am so angry I can’t bring myself to calm down” (Girl Age 11); “I get upset very easily” (Boy Age 10); “Mindfulness means being present and being aware of your emotions” (Boy Age 11).

Many younger children on the other hand needed to be taught how to observe and identify emotional states, particularly those that proved challenging. The following sub-subthemes detail how the process of developing children’s emotional self-awareness was implemented in a step-by-step manner and how the children responded to it.

4.3.1.1 Identifying Internal Weather. Children were guided and encouraged to sit quietly, check in with themselves to observe their current feelings and describe their “internal weather.” This concept of associating emotional states with weather patterns

provided younger children with a relatable context whereby they could readily recognise inner states: “My weather can be good to very very bad” (Girl Age 8); “My internal weather is OK, Fine, NOT THE BEST” (Girl Age 9).

Relating emotions to weather patterns allowed even the youngest children to monitor how they were feeling and recognise inner emotional states that they might not otherwise be able to identify. It was a regular occurrence for children in Infant Classes to mention their “weather” as an add-on when delivering any news: “I even checked what my weather forecast was ... it was a mix between rainbow and sunny” (Boy Age 6).

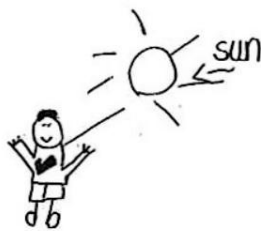
As illustrated in Figure 21, many children chose to express their internal weather through images and drawings, from sunny, cloudy, and rainy, to stormy, with one boy actually providing a key to his changing emotions: “Hurricane = really upset; Cloudy = fine” (Boy Age 9).

Figure 21:

Identifying Internal Weather



Sunny and happy
(Girl Age 8)



Sunny, happy, great
(Boy Age 8)



Scared (Girl Age 7)



Grumpy, unhappy, bad
day (Boy Age 9)



Hurricane (really upset) to Cloudy (fine) following a
mindfulness breathing technique (Boy Age 9)

Initially, children appeared to focus on non-challenging emotions, and many children regularly translated drawings of sunny and calm weather to feelings of wellbeing: “I feel happy” (Boy Age 8); “I feel proud of myself” (Girl Age 9); “I feel better, happier and in a better mood” (Girl Age 7); “Happy, calm, relaxed, that is what I feel like” (Girl Age 9).

Gradually, with constant acknowledgement in class discussions that all feelings are normal, and that it is OK not to feel OK, children began to distinguish between pleasant and more unpleasant feelings without any sense of judgement. This normalisation of all emotional states resulted in children associating their stormy, cloudy and rainy weather descriptions with more challenging emotions in an open, matter of fact, non-judgemental manner: “You go to the park and notice your [you’re] feeling stressed and weird” (Girl Age 8); “On Friday I got really [really] hungry after school and I got angry with my dad” (Boy Age 8); “Once I was angry at my little brother. I got very sad because he hit me. It was so hard” (Girl Age 8). This ability to identify with their own inner states and those of others was commented on by parents who reported: “I think my child has a better understanding of her emotions since the mindfulness course” (Parent/2nd class girl); “C is now much more self-aware of his own feelings and those of others” (Parent/2nd class boy).

Mindfulness classes created a safe space where children could discuss and explore all emotions, openly and impartially: “Some people like me get really mad” (Boy Age 8). They realised that difficult emotions were temporary and often fleeting: “I was feeling very rainy yesterday but today I am sunny again” (Girl Age 7).

This ability to recognise and label all feelings as normal, allowed children to be more comfortable with shifting emotions. They learned that they could choose to change their internal weather if it was proving difficult, but the first step in doing so was to identify those feelings and situations that prompted the need to self-regulate.

4.3.1.2 Recognising the Need to Self-Regulate. Data from children’s reflections showed that children were increasingly able to identify everyday situations that might provoke a challenging emotional response requiring regulation. As all classes had learned the calming technique of Stop, Drop and Breathe, emotional states warranting regulation were frequently described by the children in terms of a time when you should Stop, Drop and Breathe.

Within descriptions, it was common to see an interplay of weather descriptors and adjectives related to emotional states: “You should Stop, Drop and Breathe when you are sad, angry, mad, rainy, cloudy or stormy” (Girl Age 8).

At times, children didn't actually name the emotion but they recognised an emotional state that would warrant management: "You should do Stop Drop and Breathe ... when you feel like you just want to kick the table and you just want to dig a hole and go into it" (Girl Age 8); "... when you feel like the world is against you" (Girl Age 9); "... if you aren't feeling good" (Girl Age 8); "... when your [you're] having a rough time" (Boy Age 10).

On other occasions, children were able to identify hypothetical triggers that might provoke a challenging emotional response necessitating management: "It is a good time to Stop Drop and Breathe: "... when you want to get something but your parents say no" (Girl Age 9); "... when you are having a big fight with someone" (Boy Age 9); with one child identifying a visit to her cousins as potentially challenging: "I could try to calm down when I am at my cousins" (Girl Age 9).

Once challenging emotions were seen as normal, children began to name these difficult emotions directly and identify with them as times for self-regulation: "You should stop drop and breath [breathe] ...when you are feeling angry, mad at yourself or sad" (Boy Age 9); "... when you feel annoyed and depressed [depressed] and any other feeling like being angry and stressed and sad" (Boy Age 9); "... when you are sad, lonely or worried" (Girl Age 8).

One 10-year-old girl was so tuned in to her shifting emotional states that she noted: "I need it [mindfulness] badly!" (Girl Age 10); while her classmate made the decision to practise the breathing techniques: "... because I get angry a lot" (Boy Age 10).

This ability to act on their own initiative to recognise when they needed to self-regulate and implement a regulatory response was noted in comments from parents from the youngest class levels ... "R used breathing techniques when upset over some smarties that spilled in his school bag. This was on his own initiative without any prompting" (Parent/Junior Infant boy); to older children: ... "L can panic easily and she has been using the mindful breathing techniques when she feels herself getting anxious" (Parent/4th class girl); "When becoming overwhelmed, I notice him taking time out for mindful breathing to re-boot" (Parent/3^d class boy).

The mindfulness project provided children with a variety of breathing techniques and other strategies to manage and navigate these challenges and a majority of children reported an enhanced ability to identify difficult emotions, recognise when they needed to self-regulate, and subsequently choose a response to ground themselves and control their emotional and behavioural responses appropriately: "I know now that I can do mindfulness when I am stressed and angry" (Girl Age 11).

4.3.2 Emotion Regulation

Data highlighted many occasions of children being aware of impending emotional dysregulation and demonstrating the ability to support themselves.

4.3.2.1 From Identification to Intervention. Children progressed to describing everyday family situations where, following the identification of a difficult emotionally charged situation, they were empowered to put a self-regulatory response into action. Once again data revealed mindful breathing techniques as the primary response: “When I got chocolate all over the couch and she [Mum] got really mad I used finger breathing and it really helped” (Girl Age 9); “When my rabbit exapted [escaped]” (Girl Age 9); “I remember when I was just waching [watching] TV when my brother came into the room and threw all of the pillows at me. I told him to stop but he wouldn’t and he was being very annoying. I went up to my room and did some mindful breathing” (Boy Age 9); “I was bakeing [baking] and I burnt what I had made so I got annoyed so I did 7-11 to calm myself down” (Girl Age 11).

When faced with a family bereavement, one very young child identified the need to self-regulate and was able to navigate the emotionally challenging situation: “One day my aunty died and I went to my room and started practising my breathing because I felt a bit down because my aunty died” (Girl Age 7).

Along with data from children self-reporting, parents additionally documented how they had witnessed their children’s abilities to implement self-regulatory responses when needed: “My son uses finger breathing when he is anxious about going to a new place without parents” (Parent/2nd class boy); “His dad was late to collect him and he used mindfulness breathing to not worry” (Parent/2nd class boy). Even the youngest children demonstrated the newfound capability of being able to independently choose a regulatory response to meet their emotional needs: “One evening L was upset and frustrated and ran to her room. When she came out (a little less frustrated) she said she had done teddy breathing in her room” (Parent/Junior Infant girl); “My son went on a sleepover at his cousins recently and had a bad dream. He told me “I was OK Mum. I did my 7,11” (Parent/2nd class boy).

A further progression in their enhanced capacity for emotional self-awareness and subsequent regulation, is illustrated with children recognising a shift in emotions after the self-regulatory intervention: “When I was mad I wanted to do some breathing. It made me feel good” (Girl Age 8); “On the weekend I did finger breathing because it was so cold. I was in shorts and a tee-shirt. After that I felt much much better” (Boy Age 8); “You can

stop drop breathe when you feel sad when your [you're] hurt when you are nerves [nervous] and when your [you're] mad too. When I stop drop and breathe it makes me relaxed and calm and it makes me feel happy and joyful" (Figure 22).

Figure 22:

Stop Drop and Breathe



(Boy Age 8)

This ability to identify dysregulation, choose a self-regulatory response and recognise the shifting emotion, was reported by children at all age levels with an older boy describing anger management following a football incident with his sibling that escalated very quickly:

When I was playing in my garden with my brother we were playing football and he was the goalkeeper and we were using his brand new world cup ball which was worth €30. I shot the ball it was going in and my brother flung across the goal and knocked the ball over the fence and he ran into the house and told on me then I got in trouble and I got really angry so I went to my room and did finger breathing and colouring on this Harry Potter book and that calmed me down. (Boy Age 11)

One boy was very happy to have discovered mindfulness and viewed it as a solution to dealing with his many emotional challenges: "When I do mindfulness I feel much better for loads of things like: brainstorming, worrieing [worrying], mad, upset and more" (Boy Age 9). (Researcher Note: Boy explained that brainstorming was his term for being in a rage).

"While some children chose to articulate this new-found ability to self-regulate in the 3rd person, in-class discussions indicated that they were in fact describing their own experiences" (Researcher Field Notes): "Lots of people use mindfulness to help calm them down if they are stressed, angry, sad, scared or worried. You can do petal breathing, finger breathing, 7-11 or just normal breathing. It can make you calm, happy, joyful, delighted and great" (Boy Age 9).

4.3.2.2 Changing Internal Weather. Younger children were continually encouraged to see their difficult internal states such as anger, sadness, fear, etc. as temporary weather patterns that could be changed and managed. They learned techniques to “wash away the rain,” “calm the storm,” “bring back the sunshine,” and “blow away the clouds.” Equipped with practical tools, they were empowered to take charge and transform challenging emotions into ones that they could manage.

4.3.2.2.1 Breathing. Once again, mindful breathing was the main “go-to” regulatory response for the majority of the children: “If your [you’re] stormy you can breath [breathe] and take a break and relax” (Girl Age 9); “If your internal weather is stormy you can do breathing to make you calm and fine” (Boy Age 9); “My internal weather today is angry, depressed, sad. To change it you do petal breathing, arm breathing, finger breathing and you do the thing with the ball that gets bigger and smaller” (Boy Age 9).

Children’s practical adaptation of Stop Drop Breathe was employed to bring about a change in challenging internal weather: “You stop what you are doing. Drop all the anger and sadness out and just take a deep breath” (Girl Age 9); “If you are felling [feeling] angry you drop your anger and stop what you are doing” (Girl Age 8); “Stop. Drop your temper and breathe” (Boy Age 9).

Children in Infant classes enjoyed active Bee Breathing and Bunny Breathing with data evidencing them employing these strategies independently in challenging situations where they identified the need to self-regulate:

Boy: I went on my bicycle and I fell and then I was crying but then I went and did the bunny breath and I feeled [felt] better
Researcher: So where were you on your bicycle?
Boy: In front of my house
Researcher: And how did you feel after doing the bunny breath?
Boy: Sunny
Researcher: And if you wanted to do it again, when would you do it again?
Boy: If I was sad or snowy or stormy
Researcher: What might make you feel snowy or stormy?
Boy: When you’re hurting yourself or mad or sad when you can’t go out to play.
(Boy Age 7)

Many children expressed a preference to go to their room and be alone in a personal space when embarking on weather changing breathing interventions: “I would do my breathing in my room alone” (Girl Age 9); “I go upstairs and lay in my bed and breathe” (Girl Age 8); “If I had a stormy day I would lie down and do some breathing” (Girl Age 9); “I can change it by doing some 7 11 on my bed” (Boy Age 8).

Along with breathing their way out of inner turmoil, there was also growing evidence of children observing their thought patterns and taking greater personal responsibility to regulate thoughts that led to emotional upheaval: “To change your internal weather from stormy to sunny, be mindful and if you are sad try not to think about it and do some breathing” (Boy Age 9); “If my internal weather is stormy and I want to change it into a warm sunny day I can think of positive things instead of negative things. Or I can do my mindfulness breathing that I learned” (Girl Age 9).

4.3.2.2.2 Additional Self-Regulatory Techniques. As documented earlier in Theme 2 regarding methods of mindfulness practice, data once again showed that children often employed alternative mindful techniques of personal choice, to change internal weather: “If I had a stormy day I would do some mindful colouring” (Boy Age 9); with many children displaying an understanding of the regulatory benefits of engaging in mindful practice outdoors: “If your weather is stormy go to the park. Look at the birds and be came [calm]” (Boy Age 8); “Maybe get some freach [fresh] air” (Girl Age 8).

Equally, children appreciated the ability of play to alter stormy internal conditions: “I could came [calm] myself down with mindfulness and then go out to play” (Boy Age 8); “I can go outside and play with all my friends” (Boy Age 8).

Some children chose to engage with a multi-pronged approach when changing their weather: “When you are stormy or angry you can do mindful colouring, looking or listning [listening] or any type of breathing” (Girl Age 8); “You can colour you can chat to your parents you can go to the park you can play with your pet if you have one you can play with your brother and sister” (Boy Age 8). One young girl explained it very succinctly: “Do something you like doing but do that using some mindfulness” (Girl Age 8).

What was important is that the children realised that the technique itself was not important; it was the intentional action of choosing an anchor on which to place attention and with which to be present that had the potential to defuse the internal storm, blow away the clouds and restore calm. They had developed resilience and understood that mindful solutions were always at hand for managing daily ups and downs: “There is always a solution to when you feel down or upset” (Girl Age 11); “When you have a bad day you can turn it around by using mindfulness” (Boy Age 10).

4.3.2.3 Calming Down. Asking older children if they felt they could now control an emotional outburst and calm themselves, an overwhelming majority of children replied Yes. Regulatory methods described were varied: “... by being in the moment” (Boy Age 11); “...by using the great methods I learnt by practising mindfulness” (Boy Age 11).

One of the most significant outcomes of the project was that children continually reported a great sense of achievement that they had learned how to calm down during times of heightened emotional intensity. Indeed, the words “calm down” were amongst the most widely used in children’s ongoing reflections: “Mindfulness has taught [taught] me to clam [calm] myself down. I had a melt down and I went up to my room and did some mindful coulering [colouring] and it helped” (Girl Age 8); “I feel I can calm myself down at any time by using FOFBOC or 7-11 or finger breathing” (Girl Age 10); “If you take a few deep breths [breaths] it will realy [really] calm you down” (Boy Age 10).

The project equipped children with an array of calming strategies to quickly stabilise their emotions once they had identified a need to self-regulate but once again, breathing techniques were the first port of call for many: “I get sad or angry sometimes so I do breathing to calm myself down” (Girl Age 9); “I could do some seven eleven to calm down and be happy” (Boy Age 8); “I chose finger breathing to calm myself down after beign [being] angry” (Boy Age 9). “I can calm down ... by standing and getting into my mindful body and breathing (Girl Age 10); “... just by taking a few breaths” (Boy Age 10); “... by useing [using] the teddy breathing” (Girl Age 10); “ ...by doing lots of breathing exercises” (Boy Age 10); with one child acknowledging the added value of telling a trusted adult: “... by breathing and telling someone” (Girl Age 11).

Alternatively, mindful practices using the senses were promoted by children as methods of calming down in times of difficulty: “... do a mindful walk” (Boy Age 11); “You can go for a walk in the park and listen to the birds sing and that might calm you down” (Boy Age 9).

In addition to stabilising emotional turmoil, many children reported that they were now equipped with tools which helped them to remain calm in a crisis: “I was climbing a tree and I fell of [off] and I did 7 11 because I thout [thought] I broke my leg” (Boy Age 8); “When my heart is beating quite fast and I am thinking that I am going to stop, drop and breathe and that’s what I do (Girl Age 8); with one girl describing how she coped in a jammed elevator: “Once I was stuck in a eleaphtor [elevator]. I did tummy breathing to help me. I [am] fine now” (Girl Age 10)

This new skill of remaining calm when they would previously not have been able to do so was described in a variety of far-reaching contexts, from being locked in a car: “Once my mum locked me in the car and I did finger breathing” (Girl Age 9); to waiting to be picked up by a parent who was late: “When I was at recorder my mum was a little bit late so I just put my hands on my belly and breathed in and out and I was calm again” (Girl Age 10); to a more joyous situation of regulating over-excitement: “When I was going

to get my ears peirced [pierced] I got too exited [excited] and I did mindfulness [mindful] breaths to calm down” (Girl Age 8).

Participating in stage shows or music exams/lessons were frequently described as moments where mindful breathing interventions were employed to bring calm: “I was preparing to go on stage for a show and I was last to come out and I was really nervous and I used 7-11 and it helped me feel less nervous” (Boy Age 12); “I was waiting to do my guitar exam and I felt nervous so I did 7-11 and I felt much more calm” (Boy Age 12).

I was about to go to my music lesson and had not practiced [practised] all week because I was so busy I tried to get the tune write [right] but I could not so I put my hands on my belly and took three breaths and got the tune write [right]. I also felt relaxed going to [the] lesson. (Girl Age 10)

Parents validated children’s reports of their abilities to calm themselves: “J has learned to control his temper through mindfulness and as a result rarely loses his cool” (Parent/Senior Infant boy); “My son has used the mindfulness breathing techniques to calm down in situations where he was angry” (Parent/3rd class boy); with a compelling account of a hyperventilating child being able to restore balance: “G was very upset and emotional about something that was said to him. He was crying a lot and was hyperventilating. He used finger breathing to restore his breathing rate to normal. He now has the tools to help him cope with difficult situations and is aware of the benefits of practising mindfulness” (Parent/5th class boy). But perhaps one of the most exciting reports of the potential power of mindfulness to self-regulate and bring a sense of calm came from a 9-year-old girl who had always been terrified of dogs: “When I see a dog I do not like I freak out but now I take deep breaths and walk calmly by” (Figure 23).

Figure 23

Finding Calm in the Face of Terror



(Girl Age 9)

4.3.2.3.1 The Calming Bottle. One of the most successful calming techniques from the programme was through the use of what the very young children called “The Calming Bottle.” Children as young as 6 years learned to calm down and stabilise emotional dysregulation with the help of a homemade tool consisting of a plastic bottle filled with glitter. By shaking the glitter, children were able to associate their own “inner stormy weather” with the chaos of the fast-moving glitter. The taught technique was to pay close attention to the moving glitter while breathing slowly with hands on belly, and as the glitter settled down, so also would your own inner turmoil.

The extract below illustrates how very young children had learned the skills of identifying a time for self-regulation; pausing; and choosing a response, rather than reacting impulsively in a challenging situation:

Researcher: Who can tell me if they used their calming bottle at home?
Girl 1: I needed it one time when my brother was mean to me. I shook it and I took breaths and I was watching the bottle when I was mad because the glitter was going everywhere and I watched the bottle settle
Girl 2: I made a calming bottle and I shook it when my sister was annoying me, She was throwing the bedclothes and teddies at me
Researcher: How did that make you feel?
Girl 2: Mad
Researcher: So what did you do? Did you have a fight?
Girl 2: No. I left the room and I got my calming bottle and I shook it and I took some deep breaths and I was watching the bottle
Researcher: Add why did you keep watching the bottle?
Girl 2: To make me feel better
Researcher: And what happened?
Girl 2: When it settled I settled. (Junior Infants Ages 5-6)

Children readily engaged with this activity in class and at home and were eager to report their success: “I feeled [felt] angry and when the bottle was done I didn’t feel angry anymore” (Girl Age 7). One very enthusiastic child who was keen to be involved in the discussions announced that although he never felt angry: “... I made one and ... because ... like just in case my anger would come up” (Boy Age 6).

A significant event in relation to using the Calming Bottle was reported by a 7-year-old boy who related a story of a physical fight with his brother:

Boy: We were having a fight over the television and the movie we were watching.
Researcher: What kind of a fight was it?
Boy: We were hitting each other hard
Researcher: So how was your weather?
Boy: My weathy was stormy
Researcher: And what did you do to help your weather to change?
Boy: I got the calming bottle to make us feel happy again
Researcher: So what did you do with the bottle?
Boy: I’ll do it with yours

“Child then got the class calming bottle and demonstrated by shaking it, turning it over and then breathing deeply several times with hands on belly as he watched it settle” (Researcher Field Notes).

Researcher: What happened your anger while you were doing this?

Boy: It's cooling down

Researcher: And by the time the bottle has settled what happened with your anger?

Boy: It was gone. My brother and my sister did it with me and we felt much better. (Boy Age 7)

Not only did the Calming Bottle aid the regulation of emotions with the boy who was retelling the story but it was then further utilised as a regulatory tool in a manner for the three siblings to restore their relationship and calm down together.

Children from Infants to 1st class took great delight in drawing their homemade Calming Bottles, as seen in the images below (Figure 24).

Figure 24

Calming Bottles



(Boy Age 6)



(Boy Age 6)

Once the “calming bottle” had been put in place, it featured regularly in class discussions as a technique that young children employed frequently, both at home and in school, as a fun method to defuse potentially volatile situations and restore balance, once they had recognised signs of imminent emotion dysregulation.

4.3.2.4 Managing Specific Emotions. There were many reports of successful self-regulation with specific emotional states that children described as being very challenging. From the many such challenges documented by the children, this sub-theme explores how they were able to respond to and manage anger; sadness,

worries; fear; and impulsivity. As stress was reported as a major challenge for many of the children, this is discussed later as a discrete topic.

4.3.2.4.1 Anger Management. Despite the diverse range of self-regulatory techniques with which children engaged during the programme, breathing was still viewed as the “quick fix” choice when anger took hold and the children recognised the need to calm down: “Last week I did 7-11 and finger breathing because I was feeling angry and I wanted to calm down” (Girl Age 9); “When my sister mad [made] me sow [so] angre [angry] I did som [some] petal breethen [breathing]” (Boy Age 8); with one child managing her anger when she wasn’t getting her turn on the trampoline: “When my sister wouldn’t get off the trampoline I did 7-11” (Girl Age 11).

Children sometimes described anger as “being mad” or in a “rage” but through words and illustrations, they demonstrated the ability to pause and choose a response to deal with it: “If I was mad I whould [would] do some breathing to cam [calm] me down” (Girl Age 8); “I do counting breaths to make my rage go away” (Boy Age 8); “I am doing petal breathing. It helps me when I rage” (Boy Age 9).

In addition to breathing techniques, there were again many reports of children using other mindful methods of self-regulation with one boy grounding himself by “mindful looking” to calm his anger: “I was mad and I went up to my bedroom and I didn’t do breathing. I just looked out the window at all of the birds” (Boy Age 8).

Some children preferred to isolate in their bedroom to manage the challenge of anger: “When I’m angry I like to go into my bed and put a teddy on my belly” (Boy Age 8). (Researcher Note: Buddy Breathing Technique). The bed provided a calming personal space where children could relax before the anger escalated: “I like mindfulness because when you get angry you can calm down. You can relax on your bed and do mindfulness” (Boy Age 8).

Across all age groups, children truly appreciated the value of mindful techniques to manage their anger: “It makes me camer [calmer] and much more relaxd [relaxed] and when I get angry it realy [really] helps me” (Boy Age 8). It was clear that they no longer feared this challenging emotion: “Now when I am mad I can do my mindfulness” (Girl Age 10).

4.3.2.4.2 Alleviating Sadness. Children singled out everyday family situations that triggered feelings of sadness or upset but demonstrated that they were now equipped to manage the challenging emotions in an independent manner: “Yesterday my mom shouted at me. I felted [felt] rily [really] upset. I went into my room I did still full [feel] sad

so I lay down on my bed and I did some mindful coloring [colouring] and I felt much better” (Girl Age 8); “Mindfulness [Mindfulness] helped me when I was upset. I did some mindful coloring [colouring] and breathing” (Boy Age 8).

The following report showed that the utilisation of a breathing technique not only helped to reduce the immediate feelings of sadness but allowed the child to return to engage with the triggering situation again in a calm manner: “Yesterday my mom shouted because I didn’t [didn’t] listen so then I felt really upset so I went into my room and did finger breathing then I felt way better and I did what my mom told me to do” (Boy Age 8).

Children continued to articulate feelings of sadness and upset as being normal but understood the benefits of early intervention to manage such situations: “You should do Stop Drop Breathe when you are sad or nervous [nervous] it will help you” (Girl Age 8); “So when you get to feel a little [little] bit sad you can use mindfulness [mindfulness] to feel better” (Boy Age 8).

4.3.2.4.3 Dealing with Worries. Children frequently reported mindfulness breathing exercises as being very helpful in dealing with worries: “If I am worried I do the exercises and it helps” (Girl Age 9); “When I was worried in bed I used it [mindful breathing] to calm myself down when I woke up in the middle of the night” (Boy Age 12); “When I was thinking to [too] much about something and I was starting to get worried I did the mindfulness [breathing] and it helped me” (Girl Age 11).

Worrying situations included anxiety about school tests or receiving test results, but focusing on the breath served as an effective method of managing the situation with greater calm: “If you’re doing a test and you’re worried you might get it wrong you can do mindfulness and it will help you” (Boy Age 9); “It was a very important test I was so worried so I used the finger breathing it helped a lot and I did very well” (Girl Age 10); “Last Monday when we were getting our tests back I did [did] some mindful 7-11 breathing because I was nervous [nervous]. Breathing made me feel less stressed and worried” (Figure 25).

Figure 25:

Managing Worries



(Girl Age 9)

One young boy described a situation where he was worried about a family trip but by creating a moment of calm in his room beforehand to engage with his breath, he was able to detach from his worries and cope with the event in a calm manner:

I was a bit scared 'cos we were going down to Limerick and I was really worried about it because the whole family is coming and I went up to my room and did 7-11 and it really helped me to calm down. (Boy Age 9)

Children who described themselves as worriers found that breathing techniques allowed them to manage their worries effectively: "I feel worried [worried] a lot so this helped me not too much but it did" (Girl Age 10); "When I'm worried about something I do finger breathing and it helps me to forget about it" (Girl Age 8); with one child indicating control over emotional responses to the degree that she was able to achieve a relaxed state in the face of worry and articulate the inherently philosophical statement: "It feels nice that I can be relaxed when I am worried" (Girl Age 9).

4.3.2.4.4 The Worry Box. The strategy of using a "worry box" provided the younger children with an effective way to cope with worries. Writing or drawing their worries and placing them into the box allowed children to transfer the worry to an external source where it would be "looked after" for them. Children related well to the concept and many children created their own worry boxes at home. This process created a symbolic distance from the worry and children often described a sense of relief that the worry was no longer a burden to them.

Boy: I made the worry box and I put some worries in it

Researcher: And can you tell us about the worries you put in it?

Boy: They're private

Researcher: Maybe you can share one worry that's not private?
 Boy: I thought there was going to be a tornado
 Researcher: So what did you do?
 Boy: I did a picture of a tornado and coloured it and put it in my worry box
 Researcher: And where is the worry now?
 Boy: It's still in the worry box
 Researcher: And do you worry about it?
 Boy: No because when you put it in the worry box your worry it's not going to be there. (Boy Age 7)

Children were eager to bring their drawings and worry boxes to school to “show and tell” at mindfulness class (Figure 26). The practice created a supportive space where discussion of worries was normalised, and children were greatly comforted by the realisation that other children faced similar challenges to their own.

Figure 26

Worry Boxes



“I draw my worries and put them in my worry box” (Boy Age 6)



“When I put my worries into my worry box I forget them” (Girl Age 7)

4.3.2.4.5 Managing Fear. Fear was one of the common emotional challenges spoken of by the children, and when discussed, it was often associated with the “storytelling mind” generating fears at nighttime.

Children reported that by focusing on their breath, they were able to anchor themselves in the present moment which significantly enhanced their ability to manage the fear: “It helps me to go to bed when there are noises at night” (Girl Age 9); “When I’m in my bed and I try to sleep and I’m scared of something I do stop drop and breath [brathe]. I feel very calm and concentrated” (Boy Age 8); “One time I was lying in bed and I started to think then I overthanked [over thought] things but then I did 7-11 and I started to relax” (Girl Age 11).

During an exit discussion, another young boy reported difficulty with scary thoughts when he went to bed at night and described how mindful breathing enabled him to access a calm space where he could sleep: “When I go to bed sometimes I find it really hard to go to sleep and I’m just lying there for hours and I find if I do mindfulness It calms me down and I’m not thinking about these thoughts” (Boy Age 9).

Children reported how mindful breathing was used successfully to alleviate fear that otherwise might have escalated: “On Monday my dad brother and my mam were gon [gone] out of the house and I heard weard [weird] noises in the house so I did the pettle [petal] breathing so I went back on my Xbox and I felt really relaxed” (Boy Age 10).

A most interesting reflection detailed how a 12-year-old girl, very scared of heights, managed to control a reaction at a climbing centre through deep breathing, enabling her to cope more calmly with the challenge: “When I was at a wall climbing centre I’m really scared of heights so when I started to get nervous I took a deep breath” (Girl Age 12).

In general, it was clear that the power of mindful breathing enabled children to become grounded and calm during fearful moments, empowering them to combat fear and enhancing their emotional resilience: “You do stop drop breathe when you are scared. It makes me feel very calm and right” (Boy Age 8).

4.3.2.4.6 Impulse regulation. Data revealed that children also used mindfulness techniques to control reactive impulses. Not only was an emotional outburst prevented and calm restored, but children additionally experienced a sense of mastery at being able to control these potentially volatile situations: “It makes me feel better because I got to not shout and I felt good not to shout” (Girl Age 8); “If you get real angry and have a tantrum it [Stop Drop Breathe] makes me forget it and then I feel great” (Boy Age 8).

A more humorous impulse regulation experience is outlined in Figure 27 with the child’s description, wonderfully enhanced by illustrations.

Figure 27

Impulse Control



"Before I did mindfulness I could not control my laughter but after I could. It really helped me" (Girl Age 9).

4.3.2.5 Supporting Emotion Regulation within the Community. A key finding from data was one of parents and children supporting each other with regulation of emotions through mindful breathing practice: "My mom and dad do it because my dad gets angry at me and he knows all the breathing things so he does it and my mom is on the course so she's doing it. So we do it together as a family" (Boy Age 9). At times this support was of a reciprocal nature: "Whenever my mum interrupts [interrupts] me when we are having a fight I use it and it calms me and my mum down" (Girl Age 10).

It was astonishing to see support for emotion regulation within the family was sometimes provided by the child guiding the parent as illustrated in the following examples: "I did a .B with my mom when she was stressed over finding her keys, it calmed her then she searched calmly and found them" (Girl Age 12); "Well my mom she was cooking dinner and she accidentally spilled some food and I said its ok you can just breathe" (Girl Age 9). Further evidence of this reversal of roles was documented by a parent who described her young son coming to her rescue with emotional support: "Last week I was a bit flustered with work and getting things ready. C said "Mum, breathe in for 7 and out for 11, that always helps me" (Parent/2nd class boy).

Data highlighted how this support for emotion regulation was sometimes extended to the wider community of cousins and friends. "One Saturday my cousin came over and he was playing rugby with me and I scored a try and he was frustrated and I told him to calm down and do finger breathing" (Figure 28).

Figure 28:

Emotion Regulation on the Rugby Pitch



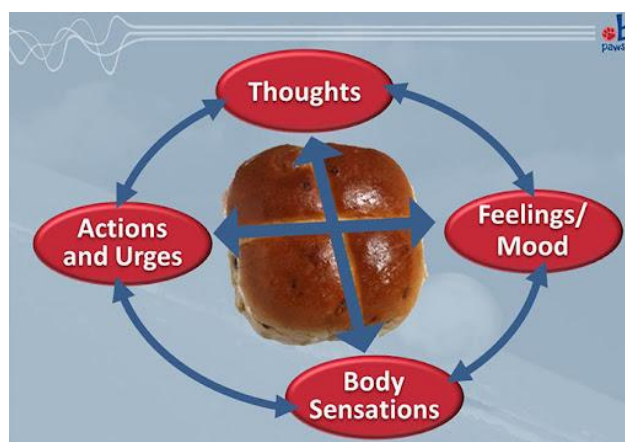
(Boy Age 8)

From explanations of mindful breathing as a calming practice: “I am telling my friend to be mindful because she is mad and I told her to do 7/11” (Girl Age 7); to providing empathic support: “I am teaching mindfulness [mindfulness] to my friend [friend] because he is sad” (Boy Age 8); children nurtured a caring environment, enhancing the development of emotional resilience within themselves and their community by supporting each other to self-regulate through mindful breathing practices.

4.3.3. Self-Regulation with the Hot Cross Bun

Figure 29:

Hot Cross Bun



Hot Cross Bun (Williams, 2001), as presented in MiSP: Paws b

The Hot Cross Bun Model (Figure 29) provides a visual framework that demonstrates how thoughts, feelings, reactive behaviours and body sensations are interconnected and influence each other in a continuous feedback loop. A negative emotion can be triggered by a negative thought which can lead to reactive behaviour and/or unpleasant body sensations, which can in turn reinforce the original negative thought pattern. From the visual Hot Cross Bun model, children understood that it is often our perception or interpretation of a situation that influences how we feel and act. They quickly understood the feedback loop within the model and were able to relate it to the Storytelling Mind often causing challenging situations in their own personal lives.

Children readily connected their tantrums, angry outbursts, worries, stress and impulsive reactions to the feedback loop of the thoughts, feelings and behavioural actions within the model: “It helped me explain why I was annoyed” (Boy Age 9); “I like how I know what’s happening when I feel bad or emotional” (Girl Age 12). They often described the interplay as circular, and during class discussions related it to a hamster on a wheel, going around and around to no avail. Older children viewed the negative interplay within the Hot Cross Bun model as a debilitating cyclical process and were eager to engage with learning how to stop it and be more in control of moods and behaviour: “Don’t get yourself caught up in things that annoy or make you stressed” (Girl Age 12); “Don’t get caught up in the hot cross bun because it doesn’t help” (Boy Age 12).

4.3.3.1 Breaking the Cycle. Children often referred to breaking out of the cycle as “stepping out of the circle”: “I want to relax when I’m stressed and to step out of the hot cross bun effect” (Girl Age 12). During a discussion on managing emotional challenges, an 11-year-old girl explained it clearly:

Girl: It’s about being present and bringing your mind back to your body and stepping out of the circle

Researcher: So what do you mean by a circle?

Girl: Like the Hot Cross Bun. It’s like your thoughts and feelings and moods and actions going around and around. It’s like trying to get yourself out of that circle because it’s not good for you. (Girl Age 11)

4.3.3.1.1 Pressing Pause. The Hot Cross Bun model significantly helped children to recognise that when trapped in the feedback loop, the first step to breaking the cycle was to press the Pause button: “Stop doing what you are doing if you are getting too stressed [stressed] out” (Boy Age 8); “I just tack [take] a minit [minute]” (Girl Age 8); “If you’re in a fight you could just step back and like take some time on your own and so like just focus on your breathing” (Boy Age 8); “If I was in an argument I could ask for a second and use some of my breathing exercises” (Boy Age 11).

Children understood that Pressing Pause was akin to “taking the wind out of the sails” in the storm they were creating, with the action of stepping back allowing them to pause the cycle and allow time in which to choose a wise response. As the negative feedback loop usually started with a thought, the first step was to observe the thoughts and change the thinking.

4.3.3.1.2 Changing the Thoughts. When observing the thoughts, children understood that it was necessary to question the Storytelling Mind and ascertain their validity: “Sometimes I might feel in danger but I’m actually not” (Girl Age 10); “The brain/mind makes stuff up and makes untrue stories” (Boy Age 11); “Not all of your thoughts are true, your mind makes up things often” (Girl Age 12). Acknowledging that the thoughts at the root of the feedback loop might be untrue, was sometimes sufficient to calm the storm.

One young girl appeared to be able to break the cycle by rationalising her thoughts and described a process that worked for her:

Do some mindfulness and say to yourself why am I sad is it really that sad like say if your [you’re] sad about your mam not buying you a toy then say to yourself it’s not really that bad some people are going throw [through] some sad things I have a happy life so I should be happy. I am being silly. (Girl Age 9)

Some of the younger children perceived changing your thoughts to be an easy solution: “You can think of somethin [something] that is not sad” (Boy Age 8); “Think of things that might be exciting” (Boy Age 8). However, the general opinion was that the best method of changing the thoughts was to focus the attention elsewhere: “So step out of it and put your attention elsewhere” (Boy Age 12).

4.3.3.1.3 Focusing Attention Elsewhere. The consensus among all age-groups was that the easiest and most effective method of stepping out of the circle, was to place your attention firmly in another area that required concentration: “You can go and do something that takes a lot of concentraten [concentration]” (Boy Age 8); “Do something that makes you feel happy like playing football, reading, videos” (Boy Age 9); “Have some ice cream and go for a walk. And do some colouring” (Boy Age 8).

Reading, drawing and playing a video game were also considered to be viable options: “If your [you’re] angry or upset try focus on something else like reading or drawing” (Boy Age 11); “I would try [to] read to take my mind of [off] things” (Boy Age 11); “You can also read a book or play a game to get your mind off the thing you’re thinking about” (Boy Age 8).

In a class discussion, 4th class students were eager to share options that proved successful for them:

Girl: If I'm annoyed, I play the violin or the piano

Researcher: And how does that help you?

Girl: It makes me concentrate on something different

Boy 1: I go out for a run and I concentrate and try to beat a time that I just make up. Sometimes if it's raining outside and I can't do a run, I get a piece of paper and a pencil and I go beside a window and I try and name some birds outside

Boy 2: When I'm annoyed I go and I learn my poem that I do for speech and drama. (4th class Ages 10 - 11)

For others, the solution was to focus on their breathing: "I know that when I am worried or nervous I will get different thoughts, feelings, body sensations and reactions. I will focus on my breathing to bring my attention away from the worry" (Girl Age 12).

4.3.3.1.4 Breathing. The mindfulness programme had provided children with many options for focused breathing and children selected their preferred method: "I can calm myself by stepping away and doing 7 11 breathing" (Boy Age 11); "I do the hoberman breathing" (Boy Age 10).

Boy: If I'm really annoyed about something or I'm getting given out to I just go upstairs and calm myself down

Researcher: So what do you do?

Boy: Finger breathing or the exercise where you put something on your stomach while you're breathing cos you have to concentrate on it and it takes your mind off the other things. (Boy Age 12).

4.3.3.1.5 Connecting with the Emotion. While the approach of connecting directly with the emotion and breathing into it was discussed with older children, it was a difficult concept for many children to understand and was only perceived as an easy option by a very few: "Mindfulness [mindfulness] really [really] helps me to calm down and be ably [able] to connect with it" (Boy Age 9).

Instead, younger children proposed that a workable possibility to defuse the volatility was to intentionally forget about the triggered emotional state and they appeared to have the ability to do so: "You can forget about being sad and angry" (Girl Age 8); "If I was feeling sad I could go somewhere else and forget why I am feeling sad" (Girl Age 8); with one child noting the success of this approach: "Yesterday I fell in yard and I had to go home early and when I got home I did finger breathing and it helped me forget about why I was sad" (Girl Age 8).

4.3.3.1.6 Body Sensations. Children related well to the concept of emotional challenges causing body sensations and all were familiar with the feeling of “butterflies in your tummy:”

Researcher: How might we feel stress in the body?

Girl: You might feel butterflies in your tummy. (Girl Age 8).

While children identified with this and other body sensations triggered in the cycle of emotional turmoil, as with being unable or unwilling to connect directly with an emotional state, they never opted to connect directly with the body sensation. Instead the preferred methods of breaking the Hot Cross Bun cycle continued to be working with the thoughts and placing attention elsewhere:

Girl: Recently I had my Feis Maitiú and I was really really stressed but I did some mindfulness and felt so much better.

Researcher: So what did you do?

Girl: I did finger breathing

Researcher: So explain that to me. How does it work?

Girl: Well while I was waiting to go on I did breathing and I focused on it. I felt really nervous and I had butterflies in my stomach. I was getting caught up in the hot cross bun so I stepped out of it with the finger breathing. (Girl Age 12)

The most comprehensive account of the Hot Cross Bun feedback loop and how to manage it came from a 12-year-old boy who now displayed great confidence in his ability to manage emotional challenges by recognising when he was caught in the loop; pausing; choosing a regulatory response and “stepping out”:

Boy: A lot of people get stressed but with mindfulness you can stop that and breathe and get out of the hot cross bun

Researcher: Can you explain the hot cross bun?

Boy: It's thoughts, reactions or urges, body sensations and emotions

Researcher: And what happens with all of those?

Boy: They sort of fire off each other and like ... if you get a thought, that might lead to an emotion that might lead to a reaction and then you have a body sensation and it keeps going round

Researcher: So can you tell me, if things are firing off each other, as you described, how can mindfulness help you to stop that?

Boy: Because in mindfulness you learn how to get out of that hot cross bun and how to realise that it might just be your mind that just made up what you're upset about or mad and it helps you to calm down and breathe

Researcher: So if you are in that hot cross bun, everything firing off each other and getting into overwhelm, what would you do?

Boy: Sort of realise that I'm in it and step out. Take maybe about 2 minutes to do some breathing and if it's really bad maybe go back in and sort it out if I can or step back out and let it go if it's not too bad.

Researcher: And what do you do to bring yourself out?

Boy: Breathe and focus on other stuff. (Boy Age 12)

This boy's insights showed a deep understanding of the Hot Cross Bun negative feedback loop, but more importantly he demonstrated the ability to recognise when he was caught within the storm and employ a self-regulatory intervention to break the cycle and step out of it.

4.3.3.2 Implementing a Non-Reactive Response. Data revealed endless examples of how an intentional pause in a potentially volatile everyday situation afforded children the space in which to choose a response. From play to the sports field, the Hot Cross Bun had taught them to step back, pause, and choose a wise response: "I used the breathing when my cousins were over. I was making a deal where we each will go on my trampoline for 5 minutes and one of them had did [done] it for about 10 minutes so I did 7/11 [breathing]" (Girl Age 10); "When I got tackled and I was going to be angry with the person who tackled me but I didn't in the end" (Boy Age 8).

During conflicts or stressful situations with siblings, they consciously implemented the reflective pause: "Me and my brother were fighting about who got the first go on the Xbox. When it was about to get physical, I went to my room and did finger and petal breathing and calmed myself down" (Boy Age 11); "When my brothers were annoying me I did my breathing (7-11 and. B) and relaxed and didn't react to it" (Figure 30).

Figure 30

Respond rather than react



(Girl Age 9)

Within their homes, pausing with enhanced self-awareness allowed children to defuse conflicts with parents before they escalated: "One time I was fighting with my dad because I didn't clean up the living room and then I decided to say "give me a min" and

then I used mindfulness to calm down and then I cleaned the room” (Girl Age 11); “When I was in an argument with my parents I took a second to do the finger breathing” (Boy Age 12).

Over and over again, children demonstrated the ability to respond wisely and constructively, avoiding impulsive behavioural reactions: “My friend was playing with me. I was building and my friend knocked [knocked] over the block. I went into my room and did finger breathing and seven eleven” (Boy Age 9); “I was getting a bit angry and instead of snapping I did some finger breathing and reacted in a good way” (Girl Age 12).

This newfound capability sometimes led to reflective insights with one girl expressing an interesting realisation: “Well when I was haveing [having] a fight with my brother I learnd [learned] that it is possible to calm down in a fight” (Girl Age 11).

In summary, a 9-year-old boy managed to encapsulate the impact of his newfound skills to manage overwhelm and self-regulate. The child’s endorsement of mindfulness practice speaks for itself in terms of empowerment and achievement, reflecting the potential of such programmes to equip young people with life changing tools for wellbeing: “I usually rage. Everyone told me to calm down. I try to but I can’t untuil [until] I found out about being mindful. After three weaks [weeks] I felt better. Try it yourself” (Boy Age 9).

Older children continually reported that The Hot Cross Bun had taught them how to step back and take an intentional pause, often described as “taking a moment” in which they realised they had the time to choose a different response; “I learned to take a moment if I am being pulled into my thoughts” (Girl Age 12). They consistently expressed how they valued this new-found calm and as one boy summed it up: “Now you can change if you want to be an angry person or not” (Boy Age 12).

4.3.4 Summary

A significant revelation by data was one of parents’ acknowledgement of the developing self-regulatory skills of their children and how they attributed them to the mindfulness programme: “It has been a very useful class for him. We’ve seen a big improvement in his behaviour and he is happier and more confident” (Parent/1st class boy); “My daughter was having an argument with me at the dinner table. She was very cross that she wasn’t allowed to eat her dinner on the couch. She eventually stopped shouting, closed her eyes and took several deep breaths and calmed down. I think this has come from her mindfulness class as it was not something she had done before” (Parent/4th class girl).

Parents witnessed their children's abilities to manage challenging emotional states through the use of simple mindfulness techniques: "My son came home angry after losing a football match and went upstairs. He came back down much calmer and said he used mindfulness. I think it has really helped him" (Parent/3rd class boy); and when noticeable, they acknowledged change: "A positive change in that he is more in control of emotions and has techniques to deal with them" (Parent/5th class boy).

They compared the resulting skillset of their children to a toolkit: "I think this is a great tool to have and one that we can build on as L approaches her teenage years" (Parent/4th class girl); and recognised the contribution it would make to their child's future: "She now feels she has the skills to cope with future difficulties" (Parent/6th class girl).

Reading the reflections of children and adults, we are reminded of the words often attributed to holocaust survivor Viktor Frankl (source unverifiable): "Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and freedom." This insight resonates profoundly with the experiences shared by the children, many of whom found this critical space during the mindfulness programme. Their empowerment to pause, step back, assess an emotional situation and consciously choose a wise response instead of reacting impulsively, led to the development of a powerful life-skill of self-regulation in the moment – a skill that has the potential to transform how they navigate future challenges and make an immense overall contribution to their lifelong emotional wellbeing.

4.4 Theme 4: Development of Respectful Communication

The concept of respectful communication refers to a way of interacting with others in a manner that is characterised by recognising and valuing the feelings, thoughts, and points of view of the other. It is underpinned by empathy and promotes peaceful resolution of disagreements and challenges with avoidance of aggressive, hurtful actions or comments.

There are now a variety of frameworks used in schools to teach the skills of respectful communication to children. Widely used Restorative Practices are rooted in the principles of respect, responsibility and relationship building, empowering children to listen attentively, speak kindly and constructively, regulate emotions and resolve differences amicably, towards building healthy respectful relationships.

Although there was no direct teaching of respectful communication during the course, and children had not undergone any restorative practice or other respectful

communication training, data evidenced that children not only developed greater self-awareness and self-regulatory skills, but additionally demonstrated an increased sense of respect, empathy and compassion for others, allowing them to navigate and resolve conflicts in a respectful manner.

4.4.1 Development of Empathy and Compassion

Following completion of the mindfulness programme, data pointed to children demonstrating the ability to feel empathy and demonstrate compassion, recognising when others were struggling with difficulties: “So my little brother has asthma which means sometimes its [it’s] hard to breath [breathe] and then my little brother got sent to hospital and it was scary for me” (Girl Age 9). Empathy was sometimes extended beyond family and friends with one boy describing a powerful act of compassion in describing how he followed a child who was outside of his immediate circle to offer kind support: “I saw a kid being bullied. So I follow [followed] him and I said who cares what they say. Just do mindfulness breathing” (Boy Age 9).

Development of empathy and compassion within the family led to children becoming more sensitive to recognising when siblings were feeling distress: “Once when I thought I had upset my sister and she was angry I did finger breathing” (Girl Age 9). One child described a further response of actually supporting an upset sibling to regulate her emotions: “I helped my sister with mindfulness when she got upset” (Girl Age 9). Indeed, this supportive response of compassionate action was all the more significant when the person offering the regulatory support was part of the conflict: “I was having a fight with my sister and I showed her how to calm down” (Girl Age 8).

Empathy and compassion towards others continued to be reported in a variety of wide-ranging settings. In a 3rd class setting, one young boy deemed it necessary to regulate his own anger in case he would injure his younger brother: “I got really angry with my brother yesterday and then did 7-11 to help me calm down so that I didn’t hurt him” (Boy Age 9); while a girl in his class indicated empathic support of her brother before his match: “I did finger breathing when it was my brother’s match because my brother was against a hard team” (Girl Age 9). Another girl made the compassionate decision to stop provoking her brothers: “If my brothers annoyed me I used to fight back so they would do it more but now I’ve stopped” (Girl Age 9); while a further classmate had tapped into the transformative power of kindness: “You can change stormy internal weather by helping someone and doing a good deed” (Girl Age 9).

While it might be argued that these skills of empathy and compassion were already present in children prior to engagement with mindfulness practice, continual reference by children to mindfulness breathing techniques when describing empathy or acts of compassion would suggest their enhancement during the programme.

4.4.2 Conflict Resolution

As a core feature of respectful communication, data indicated that children now approached the navigation and resolution of conflicts with a more compassionate outlook. One girl noted that she could now stop a conflict escalating “by forgiving and apologising” (Girl Age 10); demonstrating how mindfulness had enabled her to show sympathy, empathy and respect through her ability to forgive and take responsibility for her own actions. Children described how they now approached everyday family conflicts in a calmer manner with a newfound understanding that they could be navigated and resolved peacefully: “Some of the most important things I learnt from the course is when I am arguing or fighting with my brothers or parents I can do a FOFBOC or a .B and sort it out” (Girl Age 12).

4.4.2.1 Conflicts with Parents. Analysis of children’s reflections demonstrated that children now viewed many of their disputes with parents as normal and passing, and they were able to respond quietly and in a matter-of-fact manner to defuse the situation: “Me and my mam had a fight and I did mindfulness” (Boy Age 10); “I did finger breathing when I got annoyed with my Dad” (Boy Age 12).

There was an innate understanding of the authoritative role of the parent and even when boundaries of respect were crossed, children took personal responsibility on themselves for regulating their emotions in order to settle the dispute and restore peace: “On Saturday I got in a fight with my Mum but then I stopped shouting at her and started to breathe [breathe] slowly and I felt better and made up with my Mum” (Girl Age 9); “My mom got angry at my [me] for not cleaning my room and I got really upset so I did the teddy breathing and I felt better” (Girl Age 10).

The acceptance of a parent’s fleeting outburst of anger suggested empathy and respect, both of which further supported the development of respectful communication: “I was in my kitchen and I spilt a glass of paint water (I was painting) and my dad got angry and then I did finger breathing and it helped” (Girl Age 11).

This understanding and respect for a parent’s role of authority allowed children to move on quickly. Through mindfulness breathing interventions they regulated emotional

responses and managed the conflicts effectively, allowing them to maintain healthy family relationships.

4.4.2.2 Conflicts with Siblings. Mindfulness breathing interventions equally equipped children with the tools to achieve conflict reconciliation with siblings in a calm and compassionate manner: “In my first picture me and my brother are fighting then in the 2nd picture I'm sitting on my bed being mindful. Mindfulness is great it helps me a lot; I had a fight with my brother and I went to my bedroom and put my hands on my belly and started to breath [breathe]” (Description of a drawing by Girl Age 8). Rather than react in anger, children had learned to step back and in a respectful manner of the other, seek a peaceful resolution to restore calm: “Me and my sister were haveing [having] a big fight so I went into my sitting room and I read my book and did some breathing. So I went out and said sorry and we went outside and played” (Girl Age 8).

Parents provided additional evidence of children choosing the wise response of breathing techniques to help restore calm in sibling conflicts: “L told me that he uses the finger breathing technique when his brother is being mean to him” (Parent/ 2nd class boy); “My daughter does Stop Drop and Breathe when she is fighting with her sister” (Parent/2nd class girl); with one parent noticing ... “ that he is more relaxed when dealing with sibling conflicts” (Parent/3rd class boy).

In addition to the ability to resolve disputes peacefully, children indicated that mindfulness tools had supported a greater tolerance of younger siblings: “Once when my baby sister kept stealing my stuff without asking I got annoyed so I went to my room and did finger breathing” (Girl Age 10); “When my little brother was anoing [annoying] me so I went upstairs and I did petle breeding [petal breathing] and it made me calm and I said sorry” (Girl Age 8). This developing skill of patience for the younger sibling prevented escalation, and rooted in respect and empathy, amicably resolved tensions.

Outside of family, conflict with friends were handled in a similar manner: “One day I was outside and I was playing tag with my friends and I was on and I caught someone. But they said they weren't on and I got really mad and went inside and I did mindfulness and it helped me cam [calm] down. So I went back outside and I said sorry to them” (Girl Age 9). Once again, the power of mindfulness to self-regulate led to differences being reconciled without any physical or verbal hurtful reactions.

4.4.3 Letting Go

By employing a mindful, regulatory intervention, data illustrated that during conflicts with siblings, children learned to let go of the desire to retaliate or seek revenge:

“My little brother had broken one of my favourite toys. I wanted to break his toy. I went to my room and did some finger breathing” (Girl Age 10).

Although aware that they were wronged, children often reported the ability to choose a mindful response to stop an impulsive reaction and then let it go: “When my little brother hit me I ran upstairs and done [did] finger breathing” (Girl Age 9); “When my brother was pinching me I went up to my room and did 7–11” (Boy Age 9); “My brother tried to rip 1 of my teddy bears and I was so angry and I camed [calmed] down be [by] doing pettel [petal] breathing” (Girl Age 9).

As indicated by two 8-year-old girls, a non-retaliatory, compassionate response not only allowed them to defuse the situation but also allowed them to get past the difficulty and move on: “My brother messed up my room so I got really angry so I did 7-11 and tidyed [tidied] up my room again” (Girl Age 8); “My brother was kicking me and I went up to my room and I did some finger breathing. It made me feel much better and I went downstairs” (Girl Age 8).

A further example of compassionate response towards siblings was reported by an 8-year-old boy: “When my sister or brother are anoying [annoying] me and I want to hit them I will STOP, DROP and BREATH [BREATHE]. It makes me feel very happy. I don’t hit them anymore” (Boy Age 8). This boy’s statement that he doesn’t “hit them anymore” illustrates a significant change in his capacity to manage difficult emotions and resolve conflict calmly. It illustrates that he has become more self-aware in recognising the impact of an aggressive reaction to his siblings along with his increased happiness in being able to choose a wise, non-reactive response. Taking a reflective, calming pause allowed him to consider the feelings of his siblings, relate to them with greater empathy, and in turn, treat them with respect and compassion.

4.4.4 Saying Sorry

The act of apologising plays a key role in the development of children’s ability to communicate respectfully. By acknowledging responsibility for wrongdoing and demonstrating empathy for the hurt caused to another, the apology serves as a powerful act of compassion and an essential step to peaceful reconciliation.

Following the mindfulness programme, children reported a greater willingness to apologise following conflicts with family and friends: “When I was fighting with my family I got in troble [troube] so I went up to my room and [did] seven eleven then went back down and said sorry” (Girl Age 8); “I was haveing [having] a fight with my frined [friend] and I went of [off] and did some breathing so I went and said sorry” (Figure 31).

Figure :31

Saying Sorry



(Girl Age 8)

During class discussions, children often described a shift in mindset through an increased awareness of how words and actions can impact others in a hurtful manner and an understanding of how important it is to apologise when wrong: “[Mindfulness] helps when you have a blow up and you can do some breathing and you can just forget about it. I had a blow up with my mum and dad. I went up to my bedroom and did some mindful colouring and I did some breathing. And then I came back down and said I was sorry” (Girl Age 8).

The linking of this compassionate skill to mindfulness practice is clearly illustrated in the fictitious diary entry provided by one boy:

Sean’s Diary. Dear Diary, its [It’s] me Seán. I just came back from mindfulness and I feel a lot better after my argument with my dad. I was doing my mindfulness and suddenly it hit me to say sorry so I did some breathing and went home and my dad forgave me which I was happy about. I was very calm and so was my dad so I showed him my [breathing] excersizes [exercises] and he followed. For now, Bye Seán. (Boy Age 9)

Within the many instances of children reporting apologies to end disputes, the most powerful revelation of the role played by mindfulness in the process, came in the form of an email from a parent. She explained that her daughter (Age 10) had been consistently bullied by another child in the class over a number of months. During mindfulness class one day, following a discussion on the gift of kindness to others and the impact of kind and unkind deeds, children were invited to reflect mindfully on their behaviours as part of a mindful practice. If they had been guilty of an unkind deed, they were encouraged to think about how they might right the wrong. Later that day, her daughter was approached by the other child in the playground. She apologised for all the times she had made her feel bad and assured her that it would never happen again.

During the programme, data suggest that children had developed the capacity to reflect on and take responsibility for their actions, acknowledging the feelings of another and the hurt they may have caused them. By saying sorry, they demonstrated an ability to feel empathy and act with compassion, laying the foundation for more respectful, harmonious relationships in the future.

4.4.5 Summary

Data findings have linked the connection between the mindfulness programme and the ability to communicate respectfully, indicating an enhanced capacity for empathy and compassion.

Children reported the ability to recognise, understand and empathise with the feelings of others, especially those of family and friends, and developed essential skills to approach disagreements and conflicts calmly, implementing mindful, compassionate action towards peaceful resolutions.

Overall, these findings provide evidence for the transformative potential of mindfulness as a framework to develop the life-skill of respectful communication and subsequently empower children to engage with others in society with dignity and respect.

4.5 Theme 5: Children's Enjoyment of Mindfulness and Intentions for Continued Practice

During exit discussions, following completion of their mindfulness courses, children from 2nd to 6th class levels (Ages 8-12) were asked the questions: *Did you enjoy the mindfulness course? Will you continue with mindfulness practice on your own?* Additionally, children from 4th to 6th classes (Ages 10-12) were offered the opportunity of responding to the questions in a written exit interview format by circling a Yes/No response with the option of further elaboration.

As 96% (152/158) of participating children from 4th to 6th classes chose to complete the written exit interview, valuable numerical data relating to the Yes/No responses to both questions were collected. This data is presented in Tables 6 and 7 and with its breakdown of class levels and gender, serves as an insightful lens through which the qualitative data may be better contextualised and interpreted.

Following an overview of the numerical data, this section documents a thematic analysis of responses to both questions, illustrated in a spectrum from enthusiastic commendation to total dismissal. Commencing with children's perspectives on enjoyment

of the programme and followed by children’s intentions regarding continued engagement, analysis is based on an amalgam of transcripts of audio discussions (2nd to 6th classes) and written responses (4th to 6th classes), presented in thematic categories identified from the data.

Overview of Numerical Data

Table 6

Written Exit Interview Responses to the Question: Did you enjoy the mindfulness course?

Class level	Total Number of Participants	Total Number of Responses	YES	Boy	Girl	NO	Boy	Girl
				Number and % of Boys/Girls who said Yes			Number and % of Boys/Girls who said No	
6th	52	48 (92%)	31	9	22	17	15	2
		24 Boys 24 Girls	65%	38%	92%	35%	62%	8%
5th	53	51 (96%)	35	15	20	16	12	4
		27 Boys 24 Girls	69%	56%	83%	31%	44%	17%
4th	53	53 (100%)	47	17	30	6	2	4
		19 Boys 34 Girls	89%	89%	88%	11%	11%	12%
Total	158	152 (96%)	113	41	72	39	29	10
%		70 Boys 82 Girls	74%	59%	88%	26%	41%	12 %

Of the participants who completed the written exit interview, the highest rate of participation came from 4th class with 100% participation; followed by 5th class at 96% and 6th class at 92%.

With a majority of 74% reporting enjoyment of the course, and 26% reporting non-enjoyment, examination of responses revealed the highest enjoyment rate of 89% in 4th class (47/53), with a decline to 69% in 5th class (35/51) and a further decline to 65% in 6th class (31/48). Closer examination of responses across the three class levels indicated gender to be a key factor influencing enjoyment outcomes, with 88% of girls (72/82) reporting enjoyment as compared to 59% of boys (41/70). Further analysis at class level indicated that this gender-based trend was significant only in the two upper classes of 5th and 6th with the younger children in 4th class displaying a slight reversal of the pattern.

Gender as a factor in shaping enjoyment outcomes was particularly pronounced at 6th class level where 92% of girls reported enjoyment of the course (22/24) as compared to only 38% of boys (9/24). This gender gap narrowed in 5th class to an enjoyment rate of 83% for girls (20/24) and 56% for boys (15/27) and was slightly reversed in 4th class to 88% rate of enjoyment for girls (30/34) and 89% for boys (17/19). Non-enjoyment of the mindfulness course was highest among the boys in 6th class with a non-enjoyment rate of 62%.

Table 7

Written Exit Interview Responses to the Question: Will you continue with mindfulness practice on your own?

Class level	Total Number of Participants	Total Number of Responses	YES	Boy		NO	Girl	
				Number and % of Boys/Girls who said Yes	Girl		Number and % of Boys/Girls who said No	Boy
6th	52	47 (90%)	31	12	19	16	13	3
		25 Boys 22 Girls	66%	48%	86%	34%	52%	14%
5th	53	50 (94%)	37	17	20	13	8	5
		25 Boys 25 Girls	74%	68%	80%	26%	32%	20%
4th	53	53 (100%)	46	18	28	7	1	6
		19 Boys 34 Girls	87%	95%	82%	13%	5%	18%
Totals	158	150 (95%)	114	47	67	36	22	14
%		69 Boys 81 Girls	76%	68%	83%	24%	32%	17%

Rates of response to this question remained high and comparable to those in Table 6 with response rates of 100% (4th class); 94% (5th class); and 90% (6th class). With an overall majority of 76% reporting an intention to continue with practice, and 24% indicating discontinuation, data revealed the highest willingness to continue at 87% in 4th class; with a decline to 74% in 5th class; and a further decline to 66% in 6th class.

Once again, responses highlighted the influence of gender within the overall rate of 76% willing to engage in ongoing practice, with data revealing 83% of girls (67/81), willing to continue compared to 68% of boys (47/69), but further examination showed again that this trend was only significant with the older children in 5th and 6th classes.

Gender as a factor affecting continuation rates was most evident at 6th class level with 86% of girls (19/22) indicating further engagement with practice compared with 48% of boys (12/25). A considerable narrowing of the gender gap was highlighted in 5th class to an 80% rate of continuation for girls (20/25) and a 68% rate for boys (17/25). The trend was reversed in 4th class with an overwhelming 95% of boys (18/19) reporting an intention to continue practising compared with 82% of girls (28/34).

While overall rates towards continuation with practice were very close to rates for enjoyment (74% enjoyment; 76% continuation) a slight increase in a willingness to continue suggests that some children who did not enjoy the course were still willing to engage further with independent practice.

4.5.1 Enjoyment of the Mindfulness Programme

When elaborating on their response to the question: *Did you enjoy the mindfulness course?* children tended to link their responses to their own personal experiences, with data revealing a strong correlation between enjoyment and whether they perceived personal benefit from participation. Some were nonspecific as to why they enjoyed the course: “I really liked the course” (Girl Age 9); while others were nonspecific in linking enjoyment to benefit: “I enjoyed the course very much because it helped me a lot” (Boy Age 9); “I enjoyed the course because it really helped me” (Girl Age 8); but most elaborations of Yes responses detailed how they felt they had benefitted. Following the coding of responses and identification of categories and themes, findings for those who responded positively are presented within six key themes, representing perceived benefits attributed to the mindfulness programme: Development of an Emotion Regulation Skillset; Improved Concentration; A Sense of Greater Wellbeing; Enjoyment of Relaxation; Fun; and, An Interesting Learning Experience.

4.5.1.2 Development of an Emotion Regulation Skillset. A significant source of enjoyment for many children stemmed from their acquisition of a new skillset of coping strategies with many children describing feeling better equipped to deal with challenging emotions after taking part in the course. Younger children were very specific in linking enjoyment to how the course helped them to manage difficult emotional states: “I enjoyed it because it helped me when I was crying” (Girl Age 8); “I enjoyed it because it made me quite peaceful and cured my sadness” (Girl Age 9). Older children emphasised how a sense of control over emotional challenges contributed positively to their enjoyment: “I enjoyed [enjoyed] learning about how to control yourself and how to breath [breathe]” (Girl Age 10); “I enjoyed it...because it helped me to control my anger” (Boy Age 11); “... because it helped me to cope with my emotions” (Boy Age 12).

Linked closely to this, a number of children reported an ability to manage stress more effectively as a key reason for enjoyment of the course: “I thought the mindfulness course was enjoyable because it has shown me many new skills that will help lots during my life like my personal set of tools to help me with stress and anxiety” (Girl Age 12). This view was echoed by many of the older children, who reported enjoyment of the course “... because I learned to deal with stress and now have a toolbox for stress” (Boy Age 12); “... because it helped me deal with stress and anxiety” (Girl Age 12); “... because it helps me keep control [control] of anxiety” (Girl Age 11).

Continuing with the theme of emotion regulation, many children associated enjoyment of the mindfulness programme to their ability to calm down in challenging situations: “I enjoyed the course ... because it helped me to calm down” (Boy Age 10); “... because it taught us ways to calm ourselves down” (Boy Age 9); “... because it made me a lot calmer” (Boy Age 10). An additional emphasis was placed by some on their ability to maintain calm while feeling angry, upset, or overwhelmed: “I enjoyed the mindfulness course because now I can calm down when I am angry” (Boy Age 9); “... because it taught [taught] me how to stay calm when I was angry” (Girl Age 10); “...because it helped me calm down whenever I was mad” (Boy Age 12).

Positive responses to enjoyment of the course were linked by many to its perceived ability to control worries: “I liked it because I am usually an overthinker and it actually helped me not to worry so much” (Girl Age 11); “... because it helped me not to worry about small things” (Girl Age 10); with one older boy emphatically showing his appreciation for this new life skill: “I enjoyed the course because I worry a lot and this course taught [taught] me how to control these thoughts and worries and MINDFULNESS will DEFINATELY [DEFINITELY] help me in the future” (Boy Age 12).

When elaborating on why they reported enjoyment of the course, older children frequently referred to what they had gained from engagement with the relationship between thoughts, feelings, physical sensations and reactive behaviours of the cognitive behavioural model of the “Hot Cross Bun”: “I enjoyed the course because the hot cross bun was very interesting about how our minds go around in circles and because I have all these tools when I get stressed” (Girl Age 12); “I enjoyed the mindfulness classes because I know how to step out of the hot cross bun” (Girl Age 12). Enjoyment was associated with how the model empowered them to pause and choose a wise response rather than react impulsively: “I liked that the Hot Cross Bun gives me a chance to react when I am mad or stressed instead of reacting in a bad way” (Girl Age 12). Some children shared how they applied this strategy at home, especially in the context of conflicts with

siblings: “I liked the course because the Hot Cross Bun helped me from getting annoyed at my siblings when they annoyed me” (Boy Age 12).

4.5.1.3 Improved Concentration. Improved focus and concentration was another factor linked to enjoyment of the course: “I enjoyed the course because it helped me pay attention” (Girl Age 11); “... because it helped me to concentrate more” (Girl Age 10); with one boy specifically linking heightened focus to enjoyment of present moment awareness: “I liked focusing on what I was doing” (Boy Age 9). Some children linked their enjoyment to a greater ability to focus and concentrate in the classroom: “I liked that it helps me stay focused when learning” (Boy Age 11); “Because it helps me concentrate better and pay more attention in class. I really did enjoy it” (Girl Age 12).

4.5.1.4 A Sense of Greater Wellbeing. Enjoyment of the mindfulness programme was sometimes attributed to perceived improvements in various aspects of wellbeing. From children who felt energised following practice: “I enjoyed it because I was less tired afterwards” (Boy Age 9); to those who reported enjoying life more fully following the course: “It helped me to realise and notice the little things and to live in the moment and enjoy everything” (Girl Age 12); with one girl showing appreciation for greater control of thoughts leading to greater enjoyment of life: “I used to think about bad things and now I don’t so I can enjoy things more and I’m not as afraid to do things out of my comfort zone now” (Girl Age 12).

Enjoyment of the course was often connected to children feeling happier: “It makes me feel better and good and happy” (Girl Age 8); “I enjoyed it because I felt like it made me happier and gave me skills that I can use later on in life. I enjoy things more now than I did before” (Girl Age 12); while one young boy simply stated: “I enjoyed mindfulness because it is so nice and joyful” (Boy Age 9).

For one girl, her enjoyment of the course was associated with an improvement in sleep which had a big impact on her life: “I liked that it helped me sleep which is a big bonus and it calms me” (Girl Age 12).

4.5.1.5 Enjoyment of Relaxation. A strong theme contributing to enjoyment of the course was the experience of relaxation of mind and body that the sessions provided, with children in 6th class appreciating the novel start to Monday mornings: “I enjoyed the mindfulness course very much because on Monday mornings it is nice to just relax and clear your mind before we actually start school” (Girl Age 12); “... because it has helped me relax when I was stressed and it was nice to have something to look forward to on Monday morning” (Boy Age 12).

For many children, the experience of relaxation through guided breathing practices was new to them and enjoyment of the course was linked directly to this experience: “I liked it because [it was] nice and relaxing” (Girl Age 9); “It relaxes me and I really enjoyed it” (Boy Age 10). Others went beyond enjoyment of the relaxation experience and showed appreciation for the benefits it afforded them: “I liked it because it relaxed me during mindfulness and it helped me” (Boy Age 11); “... because it helped me to relax” (Girl Age 12). Data additionally highlighted children’s enjoyment of the ability to relax as a support for stress management: “I enjoyed it because it helped me to relax when I was stressed/frustrated” (Girl Age 12); while one child simply enjoyed the physical experience: “I enjoyed closing [closing] my eyes and relaxing” (Girl Age 10).

As part of the relaxation process, many children enjoyed the experience of having a space that offered a break from activities of a busy classroom: “I did enjoy the mindfulness course because I found it relaxing and a break from work in class” (Girl Age 11); while others enjoyed the opportunity of a mental break to clear the mind: “During the sessions [sessions] I could clear my mind of everything” (Girl Age 10); “It was very relaxing and I just let go of all my thoughts [thoughts]” (Girl Age 10). For others, this “time out” afforded an opportunity to let go of daily stresses: “I enjoyed the mindfulness course because it would make me forget about stressful things like I forgot my homework or something like that” (Boy Age 11); while for one boy, his enjoyment of the programme was simply expressed as: “I enjoyed it because we didn’t do work” (Boy Age 9).

The stillness within this space was also a contributory factor for course enjoyment: “I enjoyed the course because it was quiet and dark and I didn’t have to think about anything” (Girl Age 11); “I enjoyed it because it was a time when everyone in the class is quiet” (Girl Age 11). For another girl, enjoyment was attributed to the silence at the beginning of every class, broken only by the reverberating sound of the Tibetan singing bowl: “I enjoyed it because of the silence and the sound of the mindfulness bell” (Girl Age 10). This personal, quiet space was further identified as a connection to course enjoyment by a child who “... liked being in my own bubble” (Girl Age 11) and by another who “... liked it because it was relaxing and peacefull [peaceful]” (Girl Age 10).

4.5.1.6 Fun. Although the content of the mindfulness sessions was approached with a serious tone, some children attributed their enjoyment of the programme with the concept of fun: “I enjoyed it because [because] it is fun” (Girl Age 10); “We did a lot of fun stuff” (Girl Age 9); with some children enjoying the actual learning experience: “I enjoyed it because I thought it was very fun to learn” (Girl 10); “I enjoyed the course because it was interesting and fun” (Girl Age 10).

For some children, engaging with interactive breathing practices was experienced as fun and enjoyable: “I enjoyed all the breathing exercises we learnt” (Girl Age 12); “I liked doing the breathing exercises” (Boy Age 12); “I enjoyed it because it was fun doing the breathing” (Girl Age 10); with one boy enjoying the variety of breathing techniques practised in class: “I enjoyed it because [of] all the fun ways to breath [breathe]” (Boy Age 11). For others, enjoyment of the programme was linked to a perceived fun element of relaxation practice: “It was relaxing and fun” (Boy Age 10); “It was fun relaxing” (Girl Age 10).

How this sense of fun contributed positively to their overall perception of the course is summed up in the words of one girl who reported: “I loved the course a lot and don’t think there was anything I would change. I found it fun” (Girl Age 12).

4.5.1.7 An Interesting Learning Experience. A number of children who didn’t report specific benefits as such, attributed their enjoyment of the course to it being a positive experience: “I enjoyed mindfulness because it was a good experience” (Boy Age 10). Some described this experience as interesting: “I did enjoy the course because it was very interesting” (Girl Age 12); “I enjoyed mindfulness class because it was interesting” (Boy Age 11).

Several responses highlighted the learning experience as being at the source of children’s enjoyment of the programme: “I enjoyed learning about mindfulness” (Boy Age 10); with a number placing specific emphasis on gaining new knowledge: “I enjoyed the course because we learned new things” (Boy Age 10). Many younger children enjoyed learning about the brain: “I enjoyed it because it was teaching my brain” (Boy Age 9); “I enjoyed helping and training my mind” (Girl Age 9). Enjoyment of this learning experience was often related to how helpful it was: “I enjoyed it because I learned really helpful things” (Boy Age 10); “I liked it because it taught [taught] me things I didn’t even know were possible and actually helped me in my life” (Boy Age 12).

Enjoyment was also shaped by the belief that what children learned would be helpful in the future: “I enjoyed it because I learned so much that will help me now and in the future” (Girl Age 10); “I enjoyed the course because it taught me things that can help me throughout my life” (Boy Age 11).

4.5.2 Non-Enjoyment of the Mindfulness Programme

Notably, responses related to lack of enjoyment did not stem from opposition to the concept of mindfulness but instead, appeared to come from a mismatch between course content and children's individual needs and expectations. With regard to a balance in responses from those who responded positively and those who responded negatively, those who responded *Yes* were more inclined to elaborate on their responses while many who responded *No* often left the space for elaboration blank, resulting in an imbalance in the presentation of positive and negative responses.

Thematic analysis of children's negative responses led to the identification of three core themes under which findings will be discussed: Didn't Like the Course; Repetition Leading to Boredom; No Perceived Benefit.

4.5.2.1 Didn't Like the Course. While some children expressed a general dislike of the mindfulness course without providing specific reasons: "I just didn't like it" (Boy Age 9); "I felt it wasn't the thing for me" (Boy Age 12); some articulated clear reasons for their lack of enjoyment: "I did not enjoy it because it did not make sense" (Boy Age 9).

One key reason given for non-enjoyment of the course was that it was too sedentary: "I did not enjoy the course because there was not enough movement" (Boy Age 9); "I would like it to be a bit more active" (Girl Age 12). Some children reported that they did not like sitting still to focus on the breath, preferring more active and energetic activities: "I did not enjoy the course because I like playing hurleing [hurling] not sitting down and breathing" (Boy Age 11) while another indicated: "I would enjoy it more if it was outside" (Boy Age 11).

Non-enjoyment of the course was also linked to children who found the class practices challenging due to difficulty maintaining focus: "I can't focus on it" (Boy Age 11); "I found it hard to concentrate" (Boy Age 11). Struggling with focus during breathing practices, in particular, was reported as leading to frustration: "I didn't enjoy the course because half of the time I couldn't concentrate on the breathing" (Boy Age 11).

Although, sharing of personal feelings in class was always emphasised as optional, some children indicated discomfort with such activities, which negatively affected their enjoyment: "I didn't enjoy the course because I felt it was weird to say how I feel" (Boy Age 12). Even though some children chose not to engage in discussions of a personal nature, this discomfort sometimes extended to awkwardness and embarrassment if others were engaging with the activity: "It makes me feel uncomfortable

around myself and the class and awkward if we were talking about kid's lives [lives] outside of school" (Girl Age 11).

A small number of children commented that the practices made them feel lethargic and identified non-enjoyment of the course with feeling tired and sleepy following practices: "I did not enjoy the course because it always made me sleepy" (Girl Age 11); "It made me feel very tired" (Girl Age 11); "I did not enjoy it because it made me very tired and bored" (Boy Age 11).

4.5.2.2 Repetition Leading to Boredom. For those who did not enjoy the course, the most common criticism related to the repetition of mindfulness practices: "We kept doing the same things" (Boy Age 12). While connection with the breath and body is a key component in embedding mindfulness practices, some children expressed a need for greater variety towards better engagement: "The only thing I didn't like about it is that sometimes we did the same things and I wish we did different things" (Girl Age 11).

Breathing techniques that were revisited weekly were highlighted by many older boys in upper classes as a main reason for non-enjoyment: "We did the same breathing stuff week after week" (Boy Age 12); "I did not enjoy the course because of the way we kept doing the breathing exercises and over all I just did not enjoy it" (Boy Age 12). For those who disliked repetition, this led to boredom: "I felt it was boring" (Boy Age 12); "I did not enjoy the course because we did the same breathing over and over. I only enjoyed the fact that you missed work" (Boy Age 12). This sense of boredom was further intensified by the slow pace of the sessions which some children found monotonous and contributed to non-enjoyment: "It was quite slow" (Boy Age 12); "I thought it was very slow and boring" (Girl Age 11).

A significant finding revealed by data was that children's responses to the question of course enjoyment were not always uniformly positive or negative. Repetitive practice leading to boredom clearly diminished enjoyment of the programme for many, but enjoyment and perceived practical value of the programme did not always align within responses. Despite feeling bored, one girl was still willing and able to internalise and apply the breathing techniques in a real-life context: "I did not enjoy the course because it was a little bit boring but I did find the breathing helped me when I would be fighting with my siblings" (Girl Age 11). Similarly, another mixed view: "I thought it was a bit boring and a bit odd but at some points it was fun" (Boy Age 12); suggests that even within the boredom, moments of enjoyment emerged, contributing to an overall more complex picture of participant experiences.

4.5.2.3 No Perceived Personal Benefit. For some children the absence of any perceived benefit contributed to non-enjoyment with reports that mindfulness did not “work” for them: “I didn’t enjoy the course because it didn’t work” (Boy Age 12); “I could not use the mindfulness skills” (Boy Age 10); “I didn’t feel like I took anything from it” (Boy Age 12). Some reported a lack of improvement in emotional regulation as being at the root of non-enjoyment: “I didn’t enjoy it as it didn’t relieve me from stress at all” (Boy Age 12); with one child experiencing a perceived increase in anger following a breathing practice: “I did the 7-11 and it just made me more angry” (Boy Age 12).

Within the data of non-enjoyment responses, some children experienced a disconnect between their expectations of the course and perceived results, often describing the course as being unhelpful: “I did not enjoy mindfulness because it did not help me” (Boy Age 11); “No, it didn’t help me at all” (Boy Age 12); with one boy further linking non-enjoyment to dislike as a result of the course being unhelpful to him: “I did not enjoy the course as I didn’t like it because I don’t feel like it helped me” (Boy Age 12).

A closer examination of responses from children who reported non-enjoyment of the course because of not having benefitted in any way, revealed a number of contradictory statements where having stated explicitly that they had not gained anything from the course, they then described occasions where they had successfully employed mindfulness techniques in difficult emotional situations. One child who claimed, “I didn’t really learn anything” went on to state “... but I did learn to control myself when I’m angry” (Boy Age 11). Another child who reported “It made me very sleepy and tired and didn’t really help me in any way” then described how “... the finger breathing made me calm and relaxed” (Boy Age 11). Likewise, a child who stated: “I didn’t enjoy mindfulness and never use it,” immediately contradicted his statement by describing how he employs breathing practices to settle conflicts with a sibling: “When I am fighting with my sister, I stop and breathe” (Boy Age 11). A boy who linked non-enjoyment and lack of benefit to his expectation of remaining calm when under the pressure of taking a penalty: “I didn’t learn much about being calm in pressuring times like if you are about to take a penalty kick to win the league or to stay calm when you are losing your match,” later indicated that he would continue with mindfulness practice “... to be able to be good at taking frees” (Boy Age 11).

Children who linked mindfulness solely with stress management and emotion regulation reported non-enjoyment as they believed they weren’t sufficiently stressed or upset to benefit from the course: “No because I don’t get upset a lot” (Boy Age 11); “I didn’t enjoy the course because I wasn’t stressed about anything. It would have been

better if I was worried about something but it is still nice to have the exercises if I do get worried" (Boy Age 12). Two young boys additionally expressed non-enjoyment as having no need of mindfulness: "Because I live a happy life" (Boy Age 9); "I did not enjoy the course because I already know how to keep my self-esteem" (Boy Age 9).

4.5.3 Conclusion

Data analysis revealed a majority of children reporting enjoyment of the mindfulness programme, with younger children showing overwhelming enthusiasm as evidenced in comments transcribed from an exit interview with 3rd class: "It's awesome and helpful" (Girl Age 9); "I really liked the course" (Girl Age 9); "I love mindfulness. I wish we did not finish" (Girl Age 9). Their responses linked enjoyment to perceived personal benefit including emotion regulation, relaxation, focus, fun and enhanced wellbeing with many wanting to repeat the course: "I really want to do it again" (Boy Age 9); "I loved the course and would love to do it again" (Girl Age 9). This positive effect and desire for continued participation was further evidenced within written interview responses: "It was Amazing, Fabules [fabulous]. Peaceful. I would love to do it again" (Girl Age 10).

In contrast, enjoyment decreased significantly with age, with non-enjoyment more prevalent among older children and, in particular, boys in 5th and 6th classes. Their responses cited boredom due to the repetitive nature of breathing practices, difficulty concentrating and a perceived lack of relevance or personal benefit as obstacles to enjoyment with many expressing a wish for a more active and varied programme. Nevertheless, some older children who reported non-enjoyment also reported applying self-regulatory techniques during challenging times, indicating greater engagement than their responses suggested.

As outlined in the overview of numerical data, while the majority of children enjoyed the programme, gender within the older classes emerged as highly significant in influencing enjoyment or non-enjoyment, with 92% of girls in 6th class expressing enjoyment as opposed to only 38% of boys. To enhance impact for all children, this points to the need for tailoring further mindfulness interventions through adaptations that specifically resonate with older boys, who may respond more positively to approaches that are aligned with their interests, preferred methods of participation and perceived masculine social norms.

4.5.4 Continuation of Mindfulness Practice Following Course Completion

A majority of 76% of children reported that following completion of their mindfulness course, they would continue to engage with practice beyond the school setting. Their reasons were diverse but generally stemmed from a perception of personal gain from their class-based course encouraging a belief that it was worthwhile to continue. Data analysis of children's responses identified the key themes of Emotion Regulation and Stress Management; Mindfulness as Helpful in Life; Mindfulness as a Useful Tool for the Future; and Personal Happiness as the main influences behind children's motivation to continue with independent practice.

4.5.4.1 Emotion Regulation and Stress Management as Motivators for Continuation with Practice. Many children described an increased capacity to manage their emotions more effectively as a motive to continue with mindfulness practice beyond the course: "Yes, I would keep on using it because I feel much calmer and happier when I do it and it helps me a lot" (Girl Age 12). This sense of control when facing emotional difficulties featured in children's reports that they would continue to practise "... because It helps me control how I want to feel" (Girl Age 11); "... because it is super helpful for not letting me get worked up about small silly things" (Girl Age 11). Empowerment to handle such challenges encouraged them to continue to use what they had learned: "Yes, when I feel angry I would practice my breathing or sad" (Girl Age 10).

The ability to manage emotional tension caused by stress featured very prominently in children's reasons for continuing with mindfulness practice with many responding Yes "... because I want to relive [relieve] stress" (Girl Age 10); "... because it can help me with stress" (Girl Age 12); "... because it helps me not to be stressful and calm down" (Girl Age 10). The experience of stress relief was fundamental to the motivation of one young boy who stated: "I will use it alot [a lot] because I get stressed alot [a lot] so mindfulness really [really] helps me" (Boy Age 10). Because they found that mindfulness techniques helped to relieve stress, it made sense to keep practising: "Yes, I will continue in case I'm stressed out about anything! (Boy Age 12); "Yes, if I am stressed it will definitely come in useful" (Girl Age 12); with one girl taking it a step further in seeing the possibility of mindfulness practice helping both herself and others: "Yes, I will because I think it will help me in time and maybe I could help someone else when they are stressed" (Girl Age 12).

Some children viewed mindfulness as a personal tool for managing anxiety: "It really helps me with stress and anxiety" (Girl Age 11); and accordingly based their reasons for a willingness to continue with practice on how mindfulness supported them in

dealing with nervous or anxious moments: “Yes, because it helps me if I’m nervous or anxious” (Girl Age 12); “ ...because it can help me a lot with anxiety [anxiety]” (Boy Age 11).

A prominent theme highlighted by data as linked to the intention to continue with practice was how mindfulness techniques helped children to feel calm particularly during challenging moments: “I will keep on doing it because it makes me calm during hard times: (Boy Age 10); “Yes I will because it really helps me calm down” (Girl Age 11). Terms such as “calm” and “relaxing” featured continually within responses: “I definitely [definitely] will do it all the time as it helps me stay calm” (Girl Age 10); “Yes because it is relaxing and helps to calm me down” (Girl Age 10); with one boy agreeing to continue “... because it’s an amazing way to calm down” (Boy Age 10). Having found something personally useful to bring calm to difficult situations: “I can do my finger breathing to calm down when I’m angry and then I will feel way better” (Girl Age 11); children expressed their motivation to carry the practice of mindfulness forward beyond the formal school programme: “I will continue to do mindfulness because I could calm down even more when I’m nervous for something” (Girl Age 10).

The ability to manage stress, reduce anxiety and restore calm to stormy emotional seas allowed children to experience a more relaxed state which for many was a key factor in saying *Yes* to ongoing practice: “Yes because now I can relax when I feel like it” (Girl Age 10); “Yes because it can help me relax and be in my own bubble” (Girl Age 12). Children appreciated this relaxed state as being beneficial to their wellbeing and were eager to say *Yes* to continuing mindfulness practice in order to reap the rewards: “Yes, because it relaxes me and makes me happy and ready for the day” (Girl Age 12).

4.5.4.2 Ongoing Engagement with Mindfulness Perceived as Helpful in Life.

The term “helpful” featured prominently in children’s responses as contributing to a motivation to continue engagement with mindfulness practice. “I will continue because it helps me a lot” (Girl Age 10); “Yes because it’s really helpful” (Boy 11); “Yes, because I believe it will help me” (Boy Age 12). Several children reported that as mindfulness had already been helpful to them, they were confident that those results would continue with practice: “... because it has already helped me a lot” (Boy Age 12); “... because it worked in the competition so now I know if I am stressed I can use the exercises to help me” (Boy Age 12). While not always specifying how mindfulness was or would be helpful, this expectation of sustained benefits, “I know it will continue to help me all along the way” (Boy Age 11); was for many, at the core of the intention to maintain the practice.

Many children viewed mindfulness as a helpful strategy to draw on in times of difficulty with a *Yes* response to continuation based on mindfulness as a reliable support

system: “Yes, because it helps me when I’m in an awkward situation” (Boy Age 12); “Yes, because it will help me in a sticky situation” (Boy Age 11); “Because it will help me during hard times” (Boy Age 11). For others, the belief that sustained practice would contribute to general improvement in their experience of day-to-day life added to the appeal of continuation: “Yes, because it helps me to have a better quality of life” (Girl Age 12); “It will help me become a better person” (Girl Age 11). For a few children who showed interest in the connection between mindfulness and brain plasticity, brain development was put to the fore when outlining the reason behind a Yes to ongoing practice: “I will continue to use mindfulness because it will evelove [evolve] my prefrontal cortex to let me learn new skills quicker” (Boy Age 11); “Because it develops my brain” (Girl Age 10).

A particularly poignant response declaring that he would continue with practice came from a 6th class boy: “Yes, I will continue because I honestly (and I’m not just saying this) loved mindfulness and also because I’m a worresome [worrisome] child and this course will help me unimagably” (Boy Age 12). His emphatic language conveys how the practice of mindfulness was not just helpful, but transformative at a deep, personal level, highlighting both the immediate impact of the course and with sustained engagement, its perceived long-term value.

4.5.4.3 Mindfulness Perceived as a Useful Tool for the Future. Many children responded with Yes to the question of ongoing practice, describing mindfulness as a “useful” resource: “Yes, it’s useful in life” (Girl Age 12); and one that would benefit them in the future: “Yes, it will be useful later” (Boy Age 12); “It will be useful when I am older” (Girl Age 11). Data revealed a motivating factor to continue with practice for many children was how they viewed mindfulness as an emotional safety net to fall back on if the future brought new challenges: “ Yes because it will help me conquer obstacales [obstacles]” (Boy Age 12). They described how they would use mindfulness during difficult new life stages as they got older with the belief that the techniques they had learned would support them through difficulties: “I will continue to use it in the future in case I get in a dark place emotionally” (Boy Age 11). They anticipated future stress triggers and this expectation prompted them to stay practising in order to be able to cope: “I will keep it up because if I [am] stressing out I would know what to do and on my spare time I can practise” (Girl Age 11); “Yes, just incase [in case] I get stressed out” (Girl Age 10).

Several children highlighted secondary school as a significant future challenge and believed that continued engagement with practice would support them to cope: “Yes, cause it can help me through difficult situations in secondary” (Boy Age 12); “It will really help me in secondary school” (Girl Age 12). Having techniques to deal with the pressure

of examinations and homework featured strongly as a driving force to keep up with practice: “I think it will be useful if I have a big exam in secondary school or homework” (Girl Age 12); with specific mention of the use of mindfulness to manage the pressure of state exams in the future: “I will use it during exams for Junior and Leaving Cert” (Girl Age 11). Some children were motivated by an improved ability to focus and concentrate in class: “Yes because it helps me stay focused” (Girl Age 11); and were encouraged by this being advantageous for secondary school to commit to continued practice: “I will continue because it helps me to concentrate more in class” (Girl Age 11); “Yes because it will help doing studing [studying]” (Girl Age 11).

A small number of children highlighted teenage years as a future challenge with the expectation that it would bring emotional and social turmoil. Many agreed that they now had a “useful” mindfulness toolkit with which to practise to help them cope; “Yes, I feel it will help in the coming years as I become a teenager and I am grateful to have such a good set of useful tools” (Girl Age 12).

While many children expressed a willingness to maintain regular practice, there were others who viewed mindfulness only as an occasional tool – a coping strategy to be used if needed: “I will use it if I need it but not on a regular basis” (Girl Age 11); “Yes, I will but only when I need it” (Girl Age 12). These children viewed mindfulness as a back-up plan to be put into action during stressful moments: “I will practice [practise] it if I get stressed or annoyed” (Boy Age 11); with exams again documented as one such trigger that might influence a return to practice: “Yes, I might for future exams or competitions” (Boy Age 12). These children anticipated using mindfulness only if they needed to manage difficult situations where they felt mindfulness could help them: “I might need to use it in a scenario” (Girl Age 11); and were reassured to have a method of restoring calm: “I will do it again if I don’t feel ok” (Girl Age 11). While they didn’t commit to routine mindfulness practice as part of their daily lives, they appreciated that it was a worthwhile tool to have in the bag in times of challenge: “It is a good tool to have when you need it” (Girl Age 11).

4.5.4.4 Personal Happiness as an Incentive for Continued Practice. A lesser theme saw children connecting the practice of mindfulness to a sense of personal happiness: “It made me happier” (Girl Age 11). This emotional payoff was a strong motivator to say *Yes* to a continuation of practice: “Yes, as I am happier [happier] when I do it” (Boy Age 10); “Yes because I will feel much happier” (Girl Age 10). Some children reported that they felt better during or following a mindfulness practice, which served as a convincing reason to maintain their practice: “Yes because it always feels good” (Girl Age

10); “Mindfulness makes me feel great” (Boy Age 10); while others enjoyed the actual process of practising the breathing techniques and this “feel good” factor made them want to keep it up: “Yes because [because] I like doing the mindfulness [mindfulness] exercising [exercises] and it makes me happy” (Girl Age 11).

One girl linked her experience of mindfulness to having become more thoughtful of others and this self-perception of a better and happier version of herself encouraged a Yes to continued practice: “Yes because it feels good to be a calmer, better, happy, more thoughtful person” (Girl Age 11).

For some children, happiness in the forms of enjoyment and fun emerged as a motivating factor for continued practice with positive experiences of mindfulness central to their willingness to engage further: “I enjoyed the course a lot so I will keep up practicing [practising] mindfulness” (Girl Age 11). These children found mindfulness fun and as a result were more likely to keep up the practice: “Yes, because it was really fun” (Boy Age 10); “Because it is lots of fun and it is very usefull [useful] in life” (Boy Age 10).

4.5.5 Disengagement from Mindfulness: Choosing Not to Continue

While the majority of children expressed an intention to maintain their mindfulness practice, a significant 24% of children aged 10-12 years indicated that they did not plan to continue once their course finished. Their reasons differed but were generally based on a perceived lack of personal gain or that they just didn’t like the experience and felt that mindfulness wasn’t for them. Analysis of children’s responses categorised the main reasons for disengagement under the key themes of Lack of Perceived Benefit from Mindfulness, Dislike of Mindfulness Practice; Boredom; and Time Constraints.

4.5.5.1 Lack of Perceived Benefit from Mindfulness. A number of children stated that they had not personally experienced any significant positive changes in their lives and therefore did not see any reason to continue with practice: “I will not [continue] since I found it did not help me” (Girl Age 11). Despite engaging with the mindfulness activities in class, some chose to discontinue stating: “No because it didn’t help” (Boy Age 11); “No, I won’t as it didn’t help at all” (Boy Age 12). For some, it didn’t meet with hoped for expectations: “It didn’t make me relaxed. I didn’t feel relaxed” (Boy Age 12); and because of this, they didn’t see any point in further engagement. One girl’s response highlighted this gap between personal needs and expectations and a perceived lack of results as she expressed her reason for disengagement with a strong tone of frustration: “... because I found it very useless” (Girl Age 11).

A few children had previously engaged with breathwork and because they already practised breathing techniques, they felt they hadn't learned anything new: "I didn't find it helpful as I already know how to breathe in stressful situations" (Boy Age 12). As they believed that the mindfulness course merely repeated what they already knew, they saw little purpose in agreeing to continue with strategies they already used under a new banner: "No, because I have my own techniques that work for me" (Girl Age 12). While these children did not express any personal benefit from the course, it was clear that listening to peers reporting otherwise in class had an impact and they acknowledged that while the experience was unhelpful at a personal level, it was potentially beneficial to others: "It may help others. I just don't feel it helps me" (Boy Age 12).

4.5.5.2 Dislike of Mindfulness Practice. A personal dislike of mindfulness practice was identified as a significant factor in children's reasons to discontinue with a small number of children declaring: "I didn't like mindfulness" (Boy Age 12). These children simply did not value or appreciate the significance of mindful presence and this emotional response generated a resistance to any further engagement: "No. I just didn't like it" (Boy Age 11).

For children who responded in this manner, breathing exercises were sometimes at the root of the dislike. Some children struggled to sit still and connect with the breath and the resulting frustration led to a decision to say *No* to continuation: "No, I won't because I did not like sitting and breathing" (Boy Age 12).

A few children documented an unwelcome outcome in that they felt sleepy and tired following a mindfulness practice. "I don't like it and it makes me tired" (Boy Age 12). They expected to feel relaxed in a positive way and found this lethargic drop in energy unhelpful and enough to deter them from further engagement.

While the majority of children engaged in mindfulness practices with eagerness and enthusiasm, the responses of this small cohort reflected a sense of mismatch in that the programme and overall experience was simply not aligned to their personality, needs or interests with one boy expressing this very succinctly in his response: "It's just not for me" (Boy Age 12).

4.5.5.3 Boredom. While boredom featured significantly as a factor for children's lack of enjoyment of their mindfulness course, it featured to a lesser extent as a reason for abandoning practice. However, the slow pace of class activities proved challenging to children who found it difficult to stay engaged, and for some, this ultimately led to a decision to discontinue: "I won't continue because it was quite boring" (Girl Age 12). Certain children struggled with the repetitive nature of breathing practices: "It was all a bit

too boring for me” (Boy Age 12); with the resulting sense of boredom becoming a deterrent to further engagement. These children expressed a preference for more interactive, physical activities and learning experiences and when compared to the passive nature of sitting still, breathing and focusing inwardly, they made the decision to opt out: “No, because I like playing hurleing [hurling] not sitting down and breathing” (Boy Age 11).

4.5.5.4 Time Constraints. For a few children the decision to discontinue mindfulness practice was not based on any perceived lack of benefit but on a more practical issue related to time constraints. Their lives were full and they just did not see a space for anything extra: “I won’t continue because I don’t have time” (Girl Age 12). With full schedules of extra-curricular activities, even if they found the practices beneficial, mindfulness was not a priority and as such they didn’t plan to keep it going: “No, cause I have too many other things to do” (Boy Age 12). One boy considered if the time spent on mindfulness was worthwhile and having weighed up the time spent in relation to its benefits, the unconvincing cost-benefit underpinned his decision to let it go: “I don’t feel it helps enough to make up for the time spent doing it” (Boy Age 12). It became apparent in class discussions that with mounting pressures on their time, these children believed that additional time spent on homework or other activities would essentially be more productive and more valuable to them.

4.5.6 Conclusion

When asked if they would continue with practice once the course had ended, a 3rd class group (Age 9) echoed many of the themes highlighted in the responses of the older children. A significant difference with these younger children is that they were unanimous in their decision to keep up with regular mindfulness practice as illustrated in the extract from the audio transcript of their exit discussion:

Boy 1: Yes because it is really nice to just relax and do it

Boy 2: Definitely because it helps me to be calmer at home

Girl 1: Yes because if I stop doing it I will forget everything and I wouldn’t be able to do it anymore

Boy 3: My sister and my brother don’t usually fight me and stuff so I don’t have to do it but sometimes I do it just to do it and that’s why I find it amazing

Girl 2: Yes because I still have a temper

Girl 3: Yes because I love it and it keeps me calm (3rd class Ages 9-10)

Responses of the children who stated an intention to maintain mindfulness practice following completion of their course, viewed the practice of mindfulness as a helpful and useful skill to support them in their lives, both in immediate and future contexts. Children who documented personal benefits from the course, were motivated for

further engagement by its positive impact on their lives, with one 10-year-old girl who practised for extended periods declaring: “It is worth that 30 minets [minutes].” Additionally, enjoyment of the course and of the various mindfulness practices with which they engaged, played a significant role in reinforcing the intention for commitment to practise.

Class discussions made it apparent that children’s attitudes towards mindfulness were also shaped by deliberations amongst themselves as to its impact on their lives: “I will continue to practise because I know someone that did the course before us and he really didn’t want to but he uses it a lot now and it really helps him” (Girl Age 12). This comment highlights how children may be influenced to engage further with the practice not just by their own experiences but also by shared experiences of peers. In this case, hearing endorsement from another, helped to validate the practice and strengthen motivation, encouraging ongoing engagement beyond the classroom.

While the majority of 76% of children within 4th to 6th classes expressed an intention to continue with mindfulness practices following course completion, gender within the older classes once again emerged as highly significant in influencing further engagement or disengagement with a significant group of 52% of boys in 6th class, reporting a decision to discontinue. Reasons for discontinuation were personal and diverse, but the most prominent reason for discontinuation was a perceived lack of personal benefit. Some children felt that their lives were not improved in any meaningful way by their participation, leading to a dismissal of the value of mindfulness. Others cited a general dislike of the mindfulness experience, with particular reference to boredom and disinterest resulting from the slow pace of repetitive breathing practices, with children indicating a preference for more active, learning experiences. For a small number of children, time constraints were listed as reasons why mindfulness practice would not be added to already overly busy daily schedules. A common thread in these responses is that a continuation of independent practice is clearly linked to personal relevance and alignment with children’s perceived needs and interests with a small number of children recognising this misalignment and expressing that mindfulness was just not for them.

These findings demonstrate that a one-size-fits-all approach to mindfulness may not suit a mixed-gender group of learners with diverse needs, individual personalities and different lived experiences. Children’s responses highlighted how the programme was received and impacted differently on children often within the same classroom setting, further consolidating the argument for adapting content, delivery and participation strategies of whole-school mindfulness programmes to make them meaningful and

beneficial for all learners.

4.6 Theme 6: Post-Course Reflections of Adult Participants

As part of the whole-school initiative, mindfulness training opportunities were extended to adult stakeholders within the school community. While it was decided at school level that teachers would be offered the option of attending drop-in mindfulness sessions during “Croke Park” hours timetabled for the academic year, 8-week developmentally sequenced mindfulness training programmes were offered to SNAs working in the school, administrative staff and parents, to run outside of school hours. In total, these courses were attended by 32 parents of children from 3rd to 6th classes, 7 SNAs and 2 members of administrative staff. Following completion of the programmes, in order to capture their subjective experiences, participants were offered the option of completing a written exit interview. Exit interviews were completed and returned by 21 parents, 7 SNAs and 1 member of administrative staff. To safeguard anonymity, data from the single member of the administrative staff has been merged with the SNA group, yielding two participant groups: 21 parents⁴ and 8 SNAs.

This section presents a thematic analysis of the qualitative data collected, offering valuable insights into the impact of mindfulness training across a sector of the adult population within the school community. As the exit interview was in the form of a questionnaire with seven key questions, thematic findings are presented according to the seven topics of the interview questionnaire, with subthemes identified from examination of participant responses. Comparisons between the two groups are highlighted where relevant.

The 7 questions asked were as follows: (1) Did you engage with any formal mindfulness practice during the course? Yes/No. If yes, on how many days did you practise? (2) If you engaged in formal practice, describe the practice and, on average, how long was this practice? (3) Did you use the blog on the school website to support formal practice Yes/No. If yes, describe how you used the blog. (4) Did you engage in any informal mindfulness practice? Yes/No. If yes, describe these informal practices. (5) Was this mindfulness course helpful/unhelpful to you in your personal life? Describe how it has been helpful/unhelpful. (6) If any, what was your most significant learning on the course?

⁴ When parents completed written exit interviews, they were only identified with their child’s code number with a P before it as a statistical analysis was to be conducted comparing the mindfulness scores of children whose parents completed a mindfulness course with the scores of children whose parents did not complete a mindfulness course. For this reason, the 21 parents who completed an exit interview are only identified with the generic term of parent throughout this chapter. SNAs are identified by the numbers 1-8.

(7) Will you keep up mindfulness practice now that the course has finished? Yes/No. Why?/Why not?

4.6.1 Engagement in Formal Mindfulness Practice

4.6.1.1 Frequency of Formal Practice. The extent to which parents engaged in formal mindfulness practice was varied and ranged from zero to five days per week with most indicating engagement with practice between one and three days weekly. For some, formal mindfulness practice was limited to specific contexts: “Breathing meditation once a week before a meeting to clear my mind,” while others integrated practice into family life: “A few days in the week I do short meditations with the kids before bedtime.” SNAs reported similar frequencies ranging from one to six days per week with one enthusiastic practitioner reporting “15 to 30 minutes of meditation in the morning and again some afternoons.” Responses indicated that for most, finding the time for practice was influenced by personal work and home schedules.

4.6.1.2 Nature of Formal Practice. Data highlighted a range of formal mindfulness practices with breathing meditations, body scans, mindful movement and guided meditations listed as the most common methods of engagement within both groups: “Body scan, mindful breathing and mindful movement” (Parent); “Breathing meditation and body scans” (Parent); “Breathing and mindful movement” (SNA 6); “Bodyscan meditations from YouTube” (SNA 8); “Mindful walking” (SNA 2). Some referenced specific breathing techniques: “7-11 breathing” (SNA 4); “Focusing on belly breathing as an anchor and then awareness of what I hear, see, feel, etc.” (Parent); while others documented use of mindfulness practice to wind down before sleep: “Body scan to wind down at night” (Parent); “Short breathing meditations before bedtime” (Parent).

4.6.2 Utilisation of the Mindfulness Blog

The mindfulness blog proved to be a valuable resource with 19/21 parents and 7/8 SNAs reporting its use. Engagement levels varied with some describing intermittent use: “I dipped in and out of it” (SNA 8); “I followed one of the sessions on the course blog” (Parent); while others reported more sustained use: “I downloaded the meditations to my phone for practice” (SNA 6).

Participants from both groups described integration of resources from the course blog to support formal practice: “Short exercises from the mindfulness blog” (Parent); “I use the body scan and mindful listening meditations” (SNA 1); “Mindful listening with the bells meditation on the blog” (SNA 5); with some describing how they initially used guided practices from the blog but were now more confident practising independently: “Using

practices from the school blog and doing the body scan on my own” (Parent); “Working with recorded guided body scan meditations at the start but getting better without the recordings over time” (SNA 3).

Beyond supporting individual practice, the blog served a number of functions: For some, the explanatory videos strengthened understanding: “I used the blog to help me get a better understanding of mindfulness at the start” (Parent); while others were drawn to the research: “I read the research articles on the blog” (Parent). Data revealed how the blog was additionally used to support family practice: “I used it with the children and found it very beneficial” (Parent); “I used the children’s meditations with my child” (Parent); while one teaching parent revealed its use in a wider community: “I used it in school with my pupils” (Parent).

All in all, the blog proved invaluable to both adult groups and those who did not access the blog cited time restraints with an intention to rectify the situation: “It is on my “to do” list. I intend to use it” (Parent); or limited accessibility: “I generally did not have access to the blog when practising mindfulness (e.g. travelling to work etc.) so I usually did the breathing we practised in class” (Parent).

4.6.3 Engagement in Informal Mindfulness Practice

All participants indicated that they engaged in informal mindfulness practices, documenting through a wide range of strategies, how they attempted to pay attention and be present in their daily lives. Participants in both groups described how they consciously directed attention to the present moment throughout their day: “I find lots of short 5-10 seconds bursts for being present during the day” (Parent); “Stopping and paying attention to what I am doing, being present in the moment” (Parent). Data revealed how they intentionally anchored themselves in the now by “making a conscious decision to stay focused on one thing at a time” (Parent); and deliberately attempted to maintain this focus: “I try focusing on the current task and not planning ahead while doing tasks” (SNA 1).

4.6.3.1 Awareness of Surroundings. Developing an awareness of their surroundings featured prominently in descriptions of methods employed to cultivate becoming grounded in the moment: “I have tried to experience the moment watching the wind in trees, listening to daily sounds, etc.” (Parent); with the many sensory aspects of nature frequently used as stimuli to heighten awareness: “Awareness of surroundings while in the park. I shut out distractions and focus on plants, animals, colours and sounds” (Parent). Many engaged with mindful listening practices: “Being mindful of my

surroundings and noticing sounds outside” (Parent); with sensory awareness of surrounding sounds being further extended by one SNA who reported: “I focused on listening better to people” (SNA 6)

4.6.3.2 Embedding Mindfulness into Routine Activities. Everyday routines provided opportunities for mindfulness practice with reports of maintaining awareness of the present moment “while doing daily chores” (SNA 7); “when doing housework” (Parent); with one parent reporting her favoured method of informal practice: “When I’m making a cup of tea I focus on the sensations” (Parent). For many, driving became an occasion for mindful awareness: “Taking note of route and surroundings when driving the car” (Parent); with another parent using the daily shower as a time to be mindful: “In the shower, I feel the water, I smell the shampoo” (Parent). Mealtimes were documented as additional opportunities where participants engaged with the practice of mindful eating, with one SNA reporting greater enjoyment of food: “I enjoyed my meals more and became aware of the taste and savoured the food more” (SNA 4).

4.6.3.3 Walking as an Anchor for Mindful Awareness. There were many reports of using walking as a time to foster awareness of the present moment with participants incorporating mindfulness into their daily commutes: “Being mindful when walking to the Luas in the morning” (Parent); “I walk to and from school and use it as a chance to practise” (Parent). One parent documented how her daily walks with the buggy facilitated a variety of ways to anchor herself in the present moment, not just through focused awareness of her surroundings but additionally through the physical sense of touch: “I’m out a lot during the day with young kids in the buggy. I now focus on my surroundings more when walking and how I’m holding the buggy.” Further accounts highlighted how participants were able to engage with the somatic awareness of mindful movement during physical activity: “When cycling, I concentrate on feeling my feet and ankles” (Parent). One SNA described how she embedded this practice into her regular walk, using body sensations as grounding points to foster intentional focus: “When walking, I bring my mind to my feet as they touch the pavement. Same with my hands – I concentrate on what my hands are doing” (SNA 5); providing a compelling example of how a participant transformed a routine movement into an embodied mindful experience.

4.6.3.4 Use of Breath to Anchor Present Moment Awareness. The breath was consistently used for anchoring in the present moment. The constant availability and simplicity of breath awareness allowed for adaptable, informal practice with data highlighting how “noticing my breath” (SNA 8); and “using mindful breathing” (Parent); were grounding techniques used when required. Others applied this practice at specific

moments such as winding down before sleep: “I concentrate on my breathing before going to sleep at night” (SNA 3). For some, brief moments of focusing on the breath were sufficient to return attention to the present moment at intervals during the day: “I concentrate on breathing for 1 minute a couple of times daily” (SNA 2); illustrating how the breath served as an accessible resource for present moment awareness in the midst of everyday demands.

4.6.4 Informal Practice to Support Emotion Regulation

Data highlighted participants’ use of informal mindfulness practice to support emotion regulation with descriptions of enhanced ability to be present with challenging emotional states through “stopping the running mind and being aware of how I am feeling” (Parent); and subsequently preventing escalation: “I am aware of my thoughts and not allowing them to become strong feelings” (SNA 6). Informal self-regulatory practices were introduced into work settings with one participant “taking time out at my desk to de-clutter the mind” (Parent). Informal mindfulness practices were employed in order to be present and meet with feelings of anxiety in the body: “When commuting, instead of stressing about crowded space, I concentrate on my body and my feelings” (Parent); and with mindful acceptance, explore these feelings with open minded curiosity: “I use it for anxiety, curiously exploring body sensations” (Parent).

Breathing techniques were documented as particularly helpful for stress management: “I found breathing exercises a great way of stepping out of a stressful situation and calming myself down so that when I re-enter the fray I’m calmer and perhaps far more rational and able” (Parent). With mindful awareness and acceptance of stress, one participant described the capacity to regulate the stress by “being mindful and breathing into places in the body that have stress” (Parent).

4.6.5 Perceived Benefits of the Mindfulness Course

All participants reported that the mindfulness course was helpful, identifying a range of personal benefits. Participants described the course as “very interesting”; “very helpful”; and “invaluable to me in everyday life” (Parents); with one parent describing the course as “transformative.”

4.6.5.1 Enhanced Self-Awareness and Emotional Insight. A recurring benefit reported was the development of greater self-awareness: “It made me stop and think about my emotions more and how I react towards things” (SNA 5). Participants described being “more self-aware” (Parent); and “aware of what I was feeling under different circumstances” (SNA 8); with one parent stating, “I communicate better with my family.”

For some, this enhanced awareness led to a greater understanding of stress responses: “It has brought me acute awareness of my levels of stress and my behaviour because of it” (Parent). One SNA described heightened body awareness: “I learned about my body and where I hold stress and this has forced me to relax.”

4.6.5.2 Stress Management and Emotion Regulation. Several participants listed the use of mindfulness strategies to support stress management as being of great personal benefit: “The course has helped me deal with the stress of everyday life, being a mother and working” (Parent). Participants reported that they now felt better equipped to manage challenging situations: “It helped me deal with stressful situations in a more calming manner” (SNA 7); while others highlighted the impact of being able to regain control during emotionally charged moments: “It helped me understand that I can take back control in overwhelming situations. This has been extremely positive” (Parent). A simple image of a child controlling a kite used in class when discussing control of thoughts and emotions left a lasting impression on one parent who stated: “The image of the child flying the kite and realising who is in charge was very impactful and I think of it from time to time.”

4.6.5.3 Increased Present-Moment Awareness. Mindfulness fostered present-focused awareness: “I definitely find myself more present and mindful” (Parent); “I can concentrate my mind on the present rather than trying to speculate the future” (SNA 2). Some were “more aware of surroundings” (SNA 5); while one parent described being “more conscious of my actions and thoughts.” For another parent, she was happy to report “I’m aware of hundreds of small pleasures I previously missed” (Parent).

4.6.5.4 Enhanced Family Interactions. Many noted improved family interactions: “Being more self-aware, managing stress and communicating better with my family” (Parent); “I’m more intentional, more present with my children, less judgemental and negative and anxiety is much reduced” (Parent). Some described enhanced parenting through newfound calmness: “I now evaluate situations more calmly” (SNA 3); “I’m dealing with stressful situations in a more calming manner” (SNA 7). One parent described how her family life had benefitted through her becoming “more intentional, more present... less judgemental and negative” (Parent).

4.6.5.5 Acquisition of Practical Mindfulness Techniques. Several participants emphasised the benefit of acquiring a set of practical tools: “Body scan – excellent way of settling yourself” (SNA 4); “The STOP exercise was excellent” (SNA 8). They valued having “a toolkit to reboot” (Parent); “a resource pool to rely on” (Parent); and “strategies to deal with stopping the mind” (SNA 6). One parent reported applying these tools

successfully to manage anxiety: “I get nervous before speaking to a group so I used it to relax and get in tune with my body before I spoke”; while an SNA declared “I have learned new skills to help relax and improve my quality of life.”

4.6.6 Key Learning

4.6.6.1 Emotion regulation. The ability to self-regulate and step back from emotional reactivity featured as significant learning with descriptions ranging from: “I learned that I have the capacity to take more control of my life in a gentle and enjoyable way – it feels good!” (Parent); to “the awareness to stop and take stock of the current situation and think before reacting” (Parent). Some referenced the “The STOP technique” and “short body scans” as invaluable in allowing them to “stop, take a minute and be aware of emotions.”

4.6.6.2 Greater Self-Control. Many described an increased ability to exercise control over thoughts and behaviours as major learning: “I have the ability to change my actions and outlook” (Parent); “Reminding myself I am in control and I have a choice regarding how I manage stress” (Parent). This ability to step back and not react was a recurring aspect of learning: “... that it is possible to control how my feelings can make me react or over-react to situations” (SNA 3). The realisation that you have choice in how you navigate emotional challenges was a revelation for some: “I have the capacity to take more control of my life in a gentle and enjoyable way – it feels good!” (Parent); “I have a personal choice of saying no to stress” (Parent); with one parent expressing that she “can now take back control in overwhelming situations. This has been extremely positive.”

4.6.7 Continued Practice

When asked if they would continue with mindfulness practice, the response was overwhelmingly positive with all participants expressing the intention to continue: “Without a doubt! My wife has commented on how much calmer and less stressed I am since I started” (Parent); “I intend to make a 5-minute window on at least 5 days a week to practice” (Parent). The motivation to continue was directly linked to perceived benefits: “Definitely, it has helped me to deal with stressful moments and get more enjoyment and appreciation of nature and life” (SNA 1). While many admitted that they had not made the time for formal sitting or lying practice, they all agreed the intention was there! Several of the adult participants expressed interest in further mindfulness training with some already looking for courses in the area: “I would love to attend more sessions if local” (Parent); “I think I will seek out another course” (SNA 8); “I am interested to learn more” (Parent).

4.6.8 Summary

Following the mindfulness course, all adult participants reported substantial benefits in self-awareness, enhanced emotional awareness and improved ability to self-regulate when dealing with challenges. Many reported having a greater capacity to meet the everyday stresses of work and family life in a calmer manner. Parents reported being less reactive to difficulties with children, with a newfound ability to step back, take a moment and respond to difficult situations rather than react. All reported using informal sensory practice combined with short breathing techniques to ground themselves at regular intervals throughout their busy days. Their reflections provide evidence of the value of a whole-school community approach to mindfulness with all stakeholders developing a shared language and understanding of practice within a supportive community environment.

Conclusion

The 6 thematic findings from this study highlight a range of significant insights and skills that children and participating adults gained from their engagement with the mindfulness programme. Most notably, across all age levels from children to adults, participants developed a foundational understanding of mindfulness and how it can be applied in everyday life – an understanding that evolved into active, personal use of mindfulness strategies to support wellbeing, emotion regulation and respectful interpersonal communication.

When asked what their most important learning from the mindfulness course was, varied responses painted an invaluable picture of takeaway, core learning based on learning to be present; to pay greater attention; to be more focused; to have more control over thoughts; and how to support their own wellbeing through responding rather than reacting to stress, difficult emotions and challenging situations.

These insights as described by participants provide critical data, highlighting how they internalised and implemented mindfulness concepts and practices beyond the classroom. Their reflections not only demonstrate their core learning but additionally provide an understanding of the impact of the programme, thereby situating their learning experience at the centre of the analysis of findings.

Following the findings from analysis of qualitative data, Chapter 5 presents the findings from the analysis of quantitative data.

Chapter 5: Findings from Quantitative Data

This chapter presents the findings from statistical analysis of measures of mindfulness collected by the CAMM survey (Greco et al., 2011), pre- and post-intervention with children from 3rd to 6th classes. It also presents an account of how the binary data presented in Theme 5 of qualitative data findings was integrated with the quantitative data measures to examine more closely if the variable of gender impacted CAMM post-intervention scores.

5.1 Child and Adolescent Mindfulness Measure (CAMM)

A key aspect of this research is to determine if the completion of a mindfulness course led to a statistically significant difference in standardised mindfulness scores for students in 3rd to 6th classes, as calculated by CAMM (Greco et al., 2011).

The 10-point CAMM questionnaire (see Appendix O: p. 44) was completed by 219 students in 3rd to 6th classes before the commencement of, and at the end of their individual class mindfulness courses and provided CAMM pre-Mindfulness Course Results (CAMM pre-MCR) and CAMM post-Mindfulness Course Results (CAMM post-MCR). Totalling all 10 scores, allowed for the calculation of an overall pre-course and post-course mindfulness score (CAMM score) for each student.

While the overall analysis provides an estimation of the impact of completing a mindfulness course on a standardised mindfulness score, it is important to recognize that these results may not be uniform across all segments of the overall population. Therefore, specific subgroups of gender and class level within the school were identified and explored. In addition, a subset of 30 children from 3rd to 6th classes whose parents completed a mindfulness course as part of the research project was examined, to determine if having a parent with a substantial understanding (and possible practice) of mindfulness, contributed to statistically significant differences in the overall CAMM scores of this subset of children.

As the paired samples *t*-test is a statistical method particularly suited for analyzing dataset measurements taken from the same individuals at two distinct periods, this was the method of analysis employed in Tests 1-4 (listed below) to evaluate if there was a statistically significant difference between CAMM scores pre-course and CAMM scores post-course. Paired samples *t*-tests analysed comparison of the means, standard deviation, *t*-statistic, Pearson's bivariate correlation, effect size (Test 1), and the relevant *p*-value for each pair of results.

As the statistical method of independent samples *t*-test is used to compare the means of two unrelated groups to determine if there's a statistically significant difference between the samples, this method of analysis was used in Test 5 (listed below). Independent samples *t*-test calculated the mean, standard deviation, standard error mean, Levene's test for equality of means, *t*-test statistic, and the relevant *p*-values.

A 95% confidence interval for the mean difference between paired pre-course and post-was used.

5.2 CAMM Statistical Analysis Tests:

Statistical analysis of CAMM datasets was carried out over a series of 6 tests as follows:

1. Paired samples *t*-test comparing the means of post-course and pre-course CAMM scores, for all students from 3rd to 6th classes, grouped as a single cohort.
2. Paired samples *t*-test comparing the means of post-course and pre-course CAMM scores of students in 3rd to 6th classes, grouped as a single cohort, stratified by gender, to investigate if the variable of student gender impacted CAMM scores at an overall level.
3. Paired samples *t*-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, to investigate if the variable of student class level impacted CAMM scores.
4. Paired samples *t*-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, stratified by gender, to investigate if the variable of gender impacted CAMM scores within individual class levels.
5. Independent samples *t*-test comparing the means of post-course and pre-course CAMM scores of a subsample of students whose parents completed a mindfulness course as part of the research study, with the means of post-course and pre-course CAMM scores of students whose parents did not complete a course.
6. By extracting the data from SPSS to Microsoft Excel, additional observations of CAMM pre-MCR and CAMM post-MCR for the collective of students in 3rd to 6th classes were made, to identify aspects of mindfulness measure that showed the greatest increase in scores, the greatest decrease in scores and areas that remained the same.

5.3 Statistical Analysis Test 1:

Paired Samples *t*-test comparing the means of post-course and pre-course CAMM scores for all students from 3rd to 6th classes, grouped as a single cohort.

A paired samples *t*-test was employed to compare the means of students' post-course and pre-course CAMM scores calculated from the total of CAMM post-MCR and the total of CAMM pre-MCR for each student, within the collective of students from 3rd to 6th classes.

Paired Samples Statistics (Table 8) details the mean, standard deviation, and error of both groups: CAMM score post-course ($M = 37.39$, $SD = 5.61$) and CAMM score pre-course ($M = 34.23$, $SD = 5.88$), $t(218) = 9.40$, $p < 0.05$.

Table 8

Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course for 3rd to 6th classes

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CAMM scores post-course	37.39	219	5.607	.379
	CAMM scores pre-course	34.23	219	5.884	.398

Mean Difference

The paired samples test measured the difference between the means of the CAMM scores post-course and CAMM scores pre-course, relative to variability in the data. The results of the paired samples indicated a high statistically significant difference between post-course and pre-course CAMM scores $t(218) = 9.40$, $p < 0.05$. On average, CAMM scores post-course were 3.16 points higher than CAMM scores pre-course (95% CI [2.50, 3.82]) (Table 9).

Table 9

Paired Samples: Mean Differences of CAMM Scores Post-Course and Pre-Course 3rd to 6th

		Mean	Std. Deviation	95% Confidence Interval	t	df	Two-sided p
Pair 1	CAMM scores post-course - pre-course	3.160	4.974	2.497, 3.822	9.401	218	<.005

Correlation

Bivariate Pearson correlation examined the relationship between the two groups of CAMM scores post-course and pre-course (Table 10). As a summary of the strength of

Pearson positive correlation coefficients indicates 0.8 – 1 as a strong positive correlation; 0.4 - 0.8 as a moderate positive correlation and 0.1 - 0.4 as a weak positive correlation, paired samples correlations shows that the post-course and pre-course scores were moderately and positively correlated ($r = 0.626, p < 0.05$).

Table 10

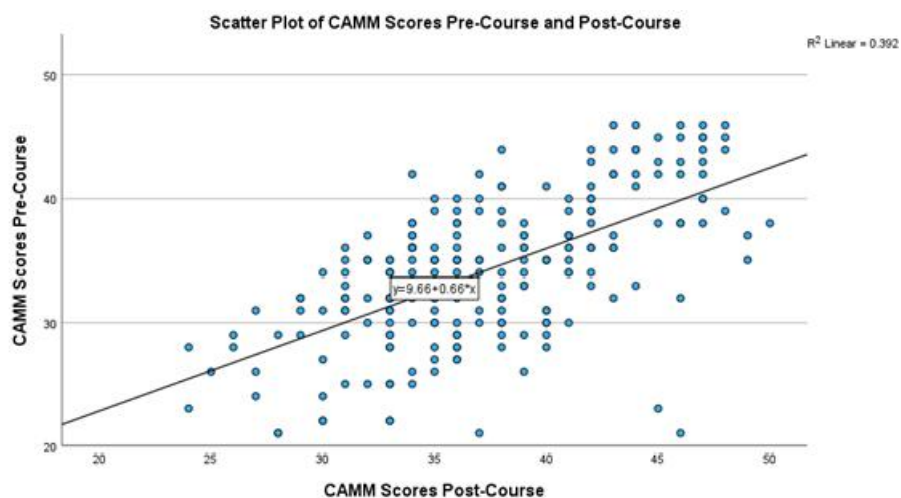
Paired Samples Correlations of *CAMM Scores Post-Course and Pre-Course 3rd to 6th classes*

	N	Correlation	Significance	
			One-Sided p	Two-Sided p
Pair 1 CAMM scores post-course & CAMM scores pre-course	219	.626	<0.05	<0.05

Scatter plot graphs allow for a clear representation of the relationship between two quantitative variables. Figure 32 visually represents the correlation of CAMM scores pre-course plotted against CAMM scores post-course. We observe a positive trend that students that scored higher pre-course also scored higher post-course supporting the moderately positive correlation of $r = 0.626$. This suggests that increases in pre-course scores result in increases in post-course scores. The closer the concentration of datapoints is to the trendline, the stronger the relationship. As this spread is not tight around the trendline it highlights that some students did better or worse than their pre-course scores would have predicted suggesting that additional factors may be at play such as effort, engagement, content.

Figure 32

Scatter Plot Graph Illustrating Correlation of CAMM Scores Pre-Course and Post-Course for the collective group of children in 3rd to 6th classes



Effect Size

Effect size is a statistical measure of the magnitude of an observed effect or relationship between measures. Cohen's d measures this effect in statistical analysis. Effect size measure of 0.5 is considered a medium effect; 0.8 as large; 1.2 as very large and 2.0 as huge (Sawilowsky, 2009). Table 11 shows effect size, Cohen's $d = 4.9$, indicates a huge impact of the course on students' overall CAMM scores post-course for the collective of students from 3rd to 6th classes.

Table 11

Paired Samples Effect Size of CAMM Scores Post Course and Pre-Course for 3rd to 6th classes

			Standardiser ^a	Point Estimate	95% Confidence Interval
Pair 1	CAMM scores post-course - CAMM scores pre-course	Cohen's d	4.974	.635	.489, .780

Cohen's d uses the simple standard deviation of the mean difference

Overview of Test 1 Results:

The results of the paired samples indicated a high statistically significant difference between post-course and pre-course CAMM scores $t(218) = 9.40$, $p < 0.05$. On average, CAMM scores post-course were 3.16 points higher than CAMM scores pre-course (95% CI [2.50, 3.82]). Cohen's $d = 4.9$, indicates a huge impact of the course on students' overall CAMM scores post-course for the collective of students from 3rd to 6th classes.

5.4 Statistical Analysis Test 2:

Paired Samples *t*-test comparing the means of post-course and pre-course CAMM scores of students in 3rd to 6th classes, grouped as a single cohort, stratified by gender

A paired samples *t*-test was conducted to explore if the variable of gender impacted CAMM scores across the full sample of 3rd to 6th class students. The dataset was split to separate the CAMM scores between two gender-based pairs for Boys and Girls. Statistical analysis of Pair 1 explored CAMM scores post-course and CAMM scores pre-course for Boys, and analysis of Pair 2 explored CAMM scores post-course and CAMM scores pre-course for Girls.

Paired Samples Statistics (Table 12) detailed the mean, standard deviation, and standard error mean of both pairs:

Pair 1 (Boys): CAMM scores post-course ($M = 36.71$, $SD = 5.42$), CAMM scores pre-course ($M = 34.08$, $SD = 5.50$).

Pair 2 (Girls): CAMM scores post-course ($M = 37.93$, $SD = 5.71$), CAMM scores pre-course ($M = 34.34$, $SD = 6.20$).

Table 12

Paired Samples Statistics of CAMM Scores Post-Course and Pre-Course for Boys/Girls

Gender			Mean	N	Std. Deviation	Std. Error Mean
Boy	Pair 1	CAMM scores post-course	36.71	97	5.422	.550
		CAMM scores pre-course	34.08	97	5.501	.559
Girl	Pair 2	CAMM scores post-course	37.93	122	5.715	.517
		CAMM scores pre-course	34.34	122	6.192	.561

Mean Comparison

The paired samples *t*-test compared the means of the two pairs, Boys and Girls. As illustrated in Table 13, paired samples tests indicated a statistically significant difference between pre-course and post-course mindfulness scores for both pairs. Pair 1 results (Boys) demonstrated a statistically significant effect between CAMM scores post-course ($M = 36.71$, $SD = 5.42$) and CAMM scores pre-course ($M = 34.08$, $SD = 5.50$), $t(96) = 5.32$, $p < 0.05$.

Pair 2 results (Girls) demonstrated a statistically significant effect between CAMM scores post-course ($M = 37.93$, $SD = 5.71$), and CAMM scores pre-course ($M = 34.34$, $SD = 6.30$), $t(121) = 7.86$, $p < 0.05$.

Table 13

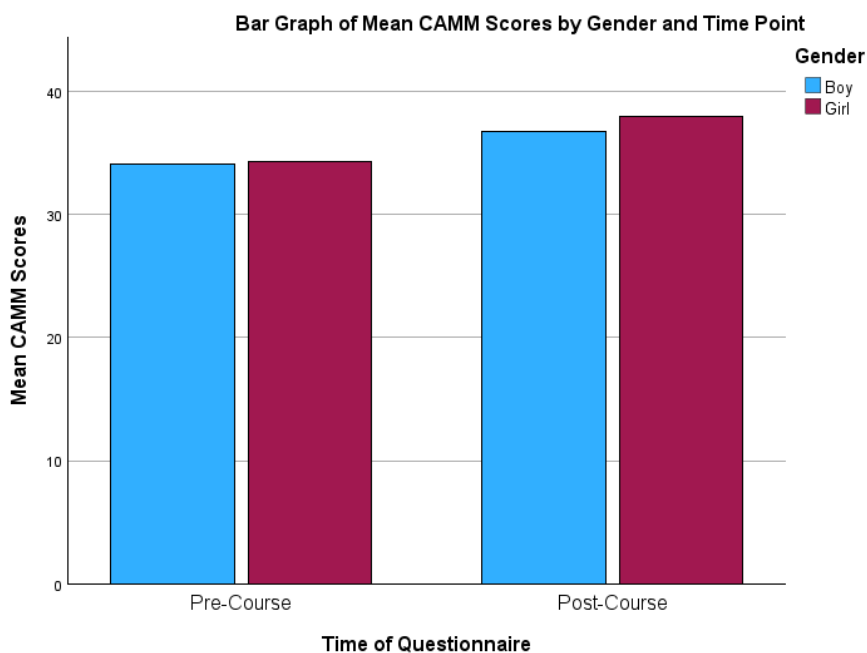
Paired Samples t-Test: Mean Comparison of CAMM Scores for Boys and Girls

Gender	Mean	Std. Deviation	95% Confidence Interval	t	df	Significance Two-Sided p
Boy Pair 1 CAMM scores post-course – CAMM scores pre-course	2.629	4.868	1.648, 3.610	5.319	96	<0.05
Girl Pair 2 CAMM scores post-course – CAMM scores pre-course	3.582	5.037	2.679, 4.485	7.855	121	<0.05

The bar graph in Figure 33 provides a visual comparison of the CAMM pre-course and post-course mean scores of Pair 1 (Boys) and Pair 2 (Girls). It illustrates the increase of scores for boys ($M = 2.63$) and increase of scores for girls ($M = 3.59$), demonstrating a statistically significant score difference for both genders.

Figure 33

Bar Graph: Mean CAMM Scores by Gender and Time Point for 3rd to 6th classes



Correlation

Paired Samples Correlation shows the bivariate Pearson correlation coefficient for each pair of variables (Table 14).

Pair 1 (Boys) results showed CAMM scores post-course and pre-course were moderately and positively correlated ($r = 0.603$, $p < 0.05$). There was a significant average difference between post and pre-scores ($t(96) = 5.32$, $p < 0.05$). On average, post scores were 2.63 points higher than pre-scores (95% CI [1.68, 3.61]).

Pair 2 (Girls) results showed CAMM scores post-course and CAMM scores pre-course were moderately and positively correlated ($r = 0.645$, $p < 0.05$). There was a significant average difference between post and pre-scores ($t(121) = 7.86$, $p < 0.05$). On average, post scores were 3.58 points higher than pre-scores (95% CI [2.68, 4.49]).

Both boys and girls showed a moderately positive relationship between pre- and post-course mindfulness scores, suggesting that prior performance was a good indicator of how well they would perform after the course. The slightly higher correlation for girls suggests that the girls' post-course results were more in line with their starting scores.

Table 14

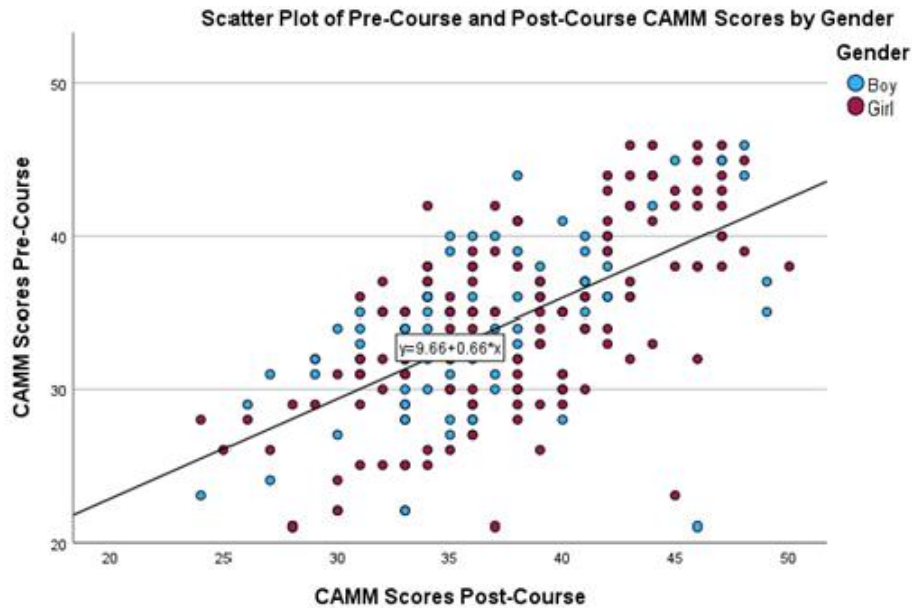
Paired Samples Correlations of CAMM Scores Post-Course and CAMM Scores Pre-Course for Boys and Girls

Gender			N	Correlation	Significance	
					One-sided p	Two-sided p
Boy	Pair 1	CAMM scores post-course - CAMM scores pre-course	97	.603	<0.05	<0.05
Girl	Pair 2	CAMM scores post-course - CAMM scores pre-course	122	.645	<0.05	<0.05

The scatter plot in Figure 34 gives a visual representation of the correlation of CAMM scores post-course plotted against CAMM Scores pre-course between Pair 1 (Boys) and Pair 2 (Girls). We observe a positive trend indicating that students who scored higher pre-course also scored higher post-course representing the moderately positive correlations of $r = 0.603$ for Pair 1 (Boys) and $r = 0.645$ for Pair 2 (Girls).

Figure 34

Scatter Plot Correlation of CAMM Scores Pre-Course Plotted Against CAMM Scores Post-Course by Gender for 3rd to 6th classes



This paired samples *t*-test was conducted to explore if the variable of student gender impacted CAMM scores. Although girls performed better than boys in that the overall difference between CAMM scores post-course and CAMM scores pre-course was 3.58 for girls and 2.63 for boys (Table 13), results have shown that there was no statistically significant difference between boys and girls allowing for the conclusion that the variable of gender did not impact overall CAMM scores.

Overview of Test 2 Results

The paired samples *t*-test compared the means of the two pairs, Boys and Girls. As illustrated in Table 13, paired samples tests indicated a statistically significant difference between pre-course and post-course mindfulness scores for both pairs. Pair 1 results (Boys) demonstrated a statistically significant effect between CAMM scores post-course ($M = 36.71$, $SD = 5.42$) and CAMM scores pre-course ($M = 34.08$, $SD = 5.50$), $t(96) = 5.32$, $p < 0.05$. Text results show the increase of scores for boys ($M = 2.63$) and increase of scores for girls ($M = 3.59$), demonstrating a statistically significant score difference for both genders. Although girls performed better than boys, results have shown that there was no statistically significant difference between boys and girls allowing for the conclusion that the variable of gender did not impact overall CAMM scores.

5.5 Statistical Analysis Test 3:

Paired Samples t-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th class

A paired samples *t*-test statistical analysis was conducted to investigate if the variable of student class level (age) within the school had an impact on CAMM scores. The dataset was split to allow for each class to be independently examined and paired by CAMM scores post-course and CAMM scores pre-course. Results indicated a significant increase in Mindfulness scores for each class. Paired Samples Statistics (Table 15) detailed the mean, standard deviation, and standard error mean of each of the classes from 3rd to 6th.

3 rd Class	CAMM scores post-course ($M = 38.20$, $SD = 5.78$), CAMM scores pre-course ($M = 35.41$, $SD = 5.70$)
4 th Class:	CAMM scores post-course ($M = 37.86$, $SD = 5.96$), CAMM scores pre-course ($M = 33.21$, $SD = 5.74$)
5 th Class:	CAMM scores post-course ($M = 37.17$, $SD = 5.33$), CAMM scores pre-course ($M = 34.26$, $SD = 5.57$)
6 th Class:	CAMM scores post-course ($M = 35.67$, $SD = 4.99$), CAMM scores pre-course ($M = 32.93$, $SD = 6.38$)

CAMM scores post-course were inversely proportional to student class level, where younger students had higher scores than older students. Students in 3rd, 5th and 6th classes showed similar post-course increases ($M = 2.79$, 2.91 , 2.74) while 4th class students showed the greatest increase in post-course scores ($M = 4.65$).

Table 15

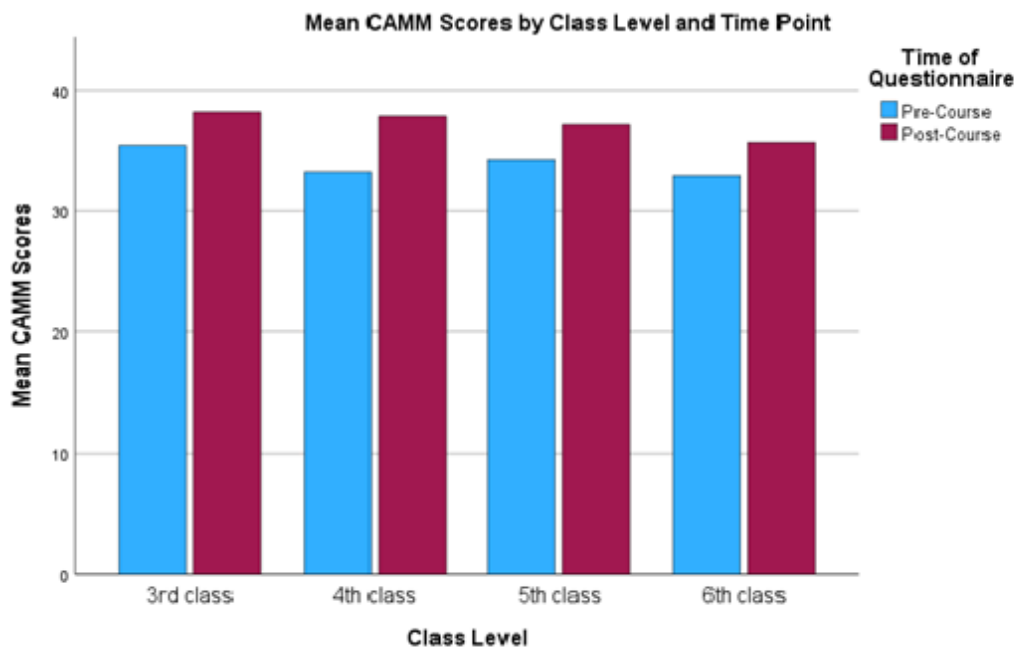
Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course by Class Level

Class level		Mean	N	Std. Deviation	Std. Error Mean
3 rd class	CAMM scores post-course	38.20	85	5.771	.626
	CAMM scores pre-course	35.41	85	5.699	.618
4 th class	CAMM scores post-course	37.86	42	5.962	.920
	CAMM scores pre-course	33.21	42	5.740	.886
5 th class	CAMM scores post-course	37.17	46	5.326	.785
	CAMM scores pre-course	34.26	46	5.571	.821
6 th class	CAMM scores post-course	35.67	46	4.989	.736
	CAMM scores pre-course	32.93	46	6.382	.941

The improvements in CAMM scores outlined in paired samples statistics are further represented by bar graph in Figure 35 for each class. This graph offers a clear visual representation of the CAMM scores post-course inverse proportionality to class level.

Figure 35

Bar Graph Illustrating Mean CAMM Scores Pre-Course and Post-Course for Each Class Level



Mean Comparison

Paired samples *t*-test results (Table 16) indicated a statistically significant increase in CAMM scores post-course for students in each of the classes:

3rd class ($t(84) = 4.77, p < 0.05$); 4th class ($t(41) = 5.55, p < 0.05$); 5th class ($t(45) = 4.77, p < 0.05$); 6th class ($t(45) = 4.238, p < 0.05$). The study identified 4th class with the largest score improvement in Mindfulness scores with an average increase of 4.64 observed ($M = 4.64, SD = 5.42, 95\% CI [2.95, 6.33]$). CAMM scores post-course in 6th class showed the smallest score improvement ($M = 2.74, SD = 4.34, 95\% CI [1.44, 4.04]$).

Table 16

Paired Samples Test: Mean Comparison of CAMM Scores Post-Course and Pre-Course for each Class Level

Class level	Mean	Std. Deviation	95% Confidence Interval	t	df	Significance Two-Sided p
3 rd CAMM scores post-course - pre-course	2.788	5.388	1.626, 3.950	4.771	84	<0.05
4 th CAMM scores post-course - pre-course	4.643	5.418	2.954, 6.331	5.553	41	<0.05
5 th CAMM scores post-course - pre-course	2.913	4.141	1.683, 4.143	4.771	45	<0.05
6 th CAMM scores post-course - pre-course	2.739	4.384	1.437, 4.041	4.238	45	<0.05

Correlation

As illustrated in Table 17, correlation values for each of the class groups range from moderate (0.55 – 0.57) in 3rd and 4th class to strong (0.71 – 0.73) in 5th and 6th class. This suggests that the relationship between CAMM scores post-course and CAMM scores pre-course improves as the students advance through the school system. All correlations are statistically significant ($p < 0.05$) indicating that that the results are highly unlikely to be caused by chance.

Table 17*Paired Samples Correlations of CAMM Scores Post-Course and Pre-Course for each Class Level*

Class level	N	Correlation	Significance	
			One-Sided p	Two-Sided p
3 rd class CAMM scores post-course & CAMM scores pre-course	85	.559	<0.05	<0.05
4 th class CAMM scores post-course & CAMM scores pre-course	42	.572	<0.05	<0.05
5 th class CAMM scores post-course & CAMM scores pre-course	46	.712	<0.05	<0.05
6 th class CAMM scores post-course & CAMM scores pre-course	46	.729	<0.05	<0.05

The impact of the course on CAMM scores post-course had a statistically significant and positive effect across all class levels. 4th class showed the greatest mean improvement while 5th and 6th class showed the strongest correlations, indicating consistent improvements with class level. Although increases in CAMM scores post-course differed, results indicated that the mindfulness course was effective in increasing CAMM scores independent of class levels.

Overview of Test 3 Results

Paired samples t-test results (Table 16) indicated a statistically significant increase in CAMM scores post-course for students in each of the classes. CAMM scores post-course were inversely proportional to student class level, where younger students had higher scores than older students. Students in 3rd, 5th and 6th classes showed similar post-course increases ($M = 2.79, 2.91, 2.74$). The study identified 4th class with the largest score improvement in Mindfulness scores with an average increase of 4.64 observed ($M = 4.64, SD = 5.42, 95\% CI [2.95, 6.33]$). CAMM scores post-course in 6th class showed the smallest score improvement ($M = 2.74, SD = 4.34, 95\% CI [1.44, 4.04]$). Although increases in CAMM scores post-course differed, results indicated that the mindfulness course was effective in increasing CAMM scores independent of class levels.

5.6 Statistical Analysis Test 4

Paired Samples t-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, stratified by gender.

A paired samples *t*-test was conducted to explore if the variable of gender impacted CAMM scores within individual class levels of 3rd to 6th class students. The dataset was split to separate the post-course and pre-course CAMM scores by class level and by gender.

Mean Comparison

A paired samples *t*-test statistical analysis was conducted to investigate if the variable of gender within each student class level of the school had an impact on CAMM scores. The dataset was split to allow for each class to be independently examined by gender and paired by CAMM scores post-course and CAMM scores pre-course. Results indicated a statistically significant increase in CAMM scores for each class. Paired Samples Statistics (Table 18) detailed the mean, standard deviation, and standard error mean of each of the classes grouped by gender from 3rd to 6th class.

3 rd Class Boys	CAMM scores post-course ($M = 37.46$, $SD = 5.19$), CAMM scores pre-course ($M = 35.34$, $SD = 5.35$)
3 rd Class Girls	CAMM scores post-course ($M = 38.89$, $SD = 6.25$), CAMM scores pre-course ($M = 35.48$, $SD = 6.07$)
4 th Class Boys	CAMM scores post-course ($M = 38.31$, $SD = 7.16$), CAMM scores pre-course ($M = 33.85$, $SD = 5.08$)
4 th Class Girls	CAMM scores post-course ($M = 37.66$, $SD = 6.25$), CAMM scores pre-course ($M = 32.93$, $SD = 6.07$)
5 th Class Boys	CAMM scores post-course ($M = 37.00$, $SD = 5.26$), CAMM scores pre-course ($M = 34.55$, $SD = 4.77$)
5 th Class Girls	CAMM scores post-course ($M = 37.33$, $SD = 5.50$), CAMM scores pre-course ($M = 34.00$, $SD = 6.31$)
6 th Class Boys	CAMM scores post-course ($M = 33.95$, $SD = 4.08$), CAMM scores pre-course ($M = 31.29$, $SD = 6.08$)
6 th Class Girls	CAMM scores post-course ($M = 37.12$, $SD = 5.29$), CAMM scores pre-course ($M = 34.32$, $SD = 6.42$)

In each individual group, there was a consistent improvement in recorded CAMM Scores after completing the course, regardless of class level or gender. The mean score improvements range from +2.2 to +5.0 points from the pre-course scores to the post-course scores. The largest gains were observed in 4th class by girls (+4.73) and by boys (+4.46). The smallest gain was observed by boys in 3rd class (+2.12).

Table 18

Paired Samples Statistics: CAMM Scores Post-Course and Pre-Course Stratified by Class Level and Gender

Gender	Class level		Mean	N	Std. Deviation	Std. Error Mean	
Boy	3rd	Pair 1	CAMM scores post-course	37.46	41	5.187	.810
			CAMM scores pre-course	35.34	41	5.351	.836
	4th	Pair 1	CAMM scores post-course	38.31	13	7.158	1.985
			CAMM scores pre-course	33.85	13	5.080	1.409
	5th	Pair 1	CAMM scores post-course	37.00	22	5.255	1.120
			CAMM scores pre-course	34.55	22	4.768	1.017
Girl	3rd	Pair 2	CAMM scores post-course	38.89	44	6.248	.942
			CAMM scores pre-course	35.48	44	6.067	.915
	4th	Pair 2	CAMM scores post-course	37.66	29	5.473	1.016
			CAMM scores pre-course	32.93	29	6.076	1.128
5th	Pair 2	CAMM scores post-course	37.33	24	5.498	1.122	
		CAMM scores pre-course	34.00	24	6.311	1.288	
6th	Pair 2	CAMM scores post-course	37.12	25	5.294	1.059	
		CAMM scores pre-course	34.32	25	6.421	1.284	

Paired Samples Mean Comparison

Across all groups, the paired sample t-tests show statistically significant improvements in CAMM scores post-course compared to pre-course (Table 19).

- 3rd class (Boys) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 2.12$, $SD = 5.08$, $t(39) = 2.67$, $p < 0.05$, $CI [0.52, 3.70]$)
- 4th class (Boys) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 4.46$, $SD = 5.24$, $t(11) = 3.07$, $p < 0.05$, $CI [1.30, 7.63]$)
- 5th class (Boys) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 2.45$, $SD = 4.54$, $t(20) = 2.53$, $p < 0.05$, $CI [0.04, 4.47]$)
- 6th class (Boys) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 2.67$, $SD = 4.60$, $t(19) = 2.66$, $p < 0.05$, $CI [0.58, 4.76]$)
- 3rd class (Girls) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 3.40$, $SD = 5.64$, $t(42) = 4.01$, $p < 0.05$, $CI [1.69, 5.12]$)
- 4th class (Girls) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 4.72$, $SD = 5.59$, $t(27) = 4.55$, $p < 0.05$, $CI [2.60, 6.85]$)
- 5th class (Girls) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 3.33$, $SD = 3.78$, $t(22) = 4.32$, $p < 0.05$, $CI [1.74, 4.93]$)
- 6th class (Girls) Results demonstrated a statistically significant increase between pre-course and post-course CAMM scores ($M = 2.80$, $SD = 4.29$, $t(23) = 3.26$, $p < 0.05$, $CI [1.03, 4.57]$).

Table 19*Paired Samples Test: Mean Comparison of CAMM Scores for Individual Class Levels by Gender*

Class Leel			Mean	Std. Dev	95% Confidence Interval	t	df	Significance Two-Sided p	
Boy	3rd	Pair 1	CAMM scores post-course – CAMM scores pre-course	2.122	5.085	.517, 3.727	2.672	40	.011
	4th	Pair 1	CAMM scores post-course – CAMM scores pre-course	4.462	5.238	1.296, 7.627	3.071	12	.010
	5th	Pair 1	CAMM scores post-course – CAMM scores pre-course	2.455	4.543	.440, 4.469	2.534	21	.019
	6th	Pair 1	CAMM scores post-course – CAMM scores pre-course	2.667	4.597	.574, 4.759	2.658	20	.015
Girl	3rd	Pair 2	CAMM scores post-course – CAMM scores pre-course	3.409	5.642	1.694, 5.124	4.008	43	<.001
	4th	Pair 2	CAMM scores post-course – CAMM scores pre-course	4.724	5.586	2.599, 6.849	4.554	28	<.001
	5th	Pair 2	CAMM scores post-course – CAMM scores pre-course	3.333	3.784	1.735, 4.931	4.315	23	<.001
	6th	Pair 2	CAMM scores post-course – CAMM scores pre-course	2.800	4.291	1.029, 4.571	3.262	24	.003

Correlation

By analyzing the correlation data, we observe the following:

3rd class boys ($r = 0.535$) suggests a moderate correlation

4th class boys ($r = 0.682$) highlights a strong correlation

5th class boys ($r = 0.593$) suggests a moderate correlation

6th class boys ($r = 0.654$) highlights a strong correlation

3rd class girls ($r = 0.581$) suggests a moderate correlation

4th class girls ($r = 0.536$) suggests a moderate correlation

5th class girls ($r = 0.803$) indicates a very strong correlation

6th class girls ($r = 0.748$) highlights a strong correlation

All correlations are positive and statistically significant, demonstrating that the pre- and post-course scores are related (Table 20). The strongest observed correlation is for Girls in 5th class ($r = 0.803$) highlighting that those with higher pre-course scores almost always had higher post-course scores. While still statistically significant, the lowest correlation scores were observed in 3rd class boys ($r = 0.535$) and 4th class girls ($r = 0.536$), indicating some variability in rank order (Some low-scoring pre-course scores increased by a greater margin than other high-scoring pre-course scores). A lower correlation indicates that, for certain classes, the course enabled some students to make greater improvements than their peers.

Table 20

Paired Samples Correlations 3rd to 6th classes

	Class level	N	Correlation	Significance		Cohen's <i>d</i>
				One-Sided p	Two-Sided p	
Boy	3rd Pair 1 CAMM scores post-course & CAMM scores pre-course	41	.535	<.001	<.001	0.417
	4th Pair 1 CAMM scores post-course & CAMM scores pre-course	13	.682	.005	.010	0.852
	5th Pair 1 CAMM scores post-course & CAMM scores pre-course	22	.593	.002	.004	0.540
	6th Pair 1 CAMM scores post-course & CAMM scores pre-course	21	.654	<.001	.001	0.580
Girl	3rd Pair 2 CAMM scores post-course & CAMM scores pre-course	44	.581	<.001	<.001	0.604
	4th Pair 2 CAMM scores post-course & CAMM scores pre-course	29	.536	.001	.003	0.846
	5th Pair 2 CAMM scores post-course & CAMM scores pre-course	24	.803	<.001	<.001	0.881
	6th Pair 2 CAMM scores post-course & CAMM scores pre-course	25	.748	<.001	<.001	0.652

Estimated effect sizes (Cohen's d) ranged from small to medium ($d = 0.42$) in 3rd class boys to large ($d = 0.88$) in 5th class girls, indicating that improvements were not only statistically significant but also practically meaningful (Table 20).

Overview of Results

The results indicate that the course had a statistically significant and practically meaningful positive impact on mindfulness scores regardless of class level or gender. Gains were most pronounced in 4th class for both genders. The moderate correlations in younger groups suggest the intervention may have been especially effective in enabling lower-scoring students to make substantial gains.

5.7 Statistical Analysis Test 5

Independent Samples t-test comparing the means of post-course and pre-course CAMM scores of a subsample of children whose parents completed a mindfulness course with CAMM scores of children whose parents did not complete a mindfulness course.

A subsample comprising students from 3rd to 6th classes whose parents completed a mindfulness course as part of the research project, was identified. The subsample ($n = 30$) represented 13.7% of the total dataset. An independent samples statistical analysis was conducted to investigate how CAMM scores for this subset compared to CAMM scores of the remaining group ($n = 189$), whose parents did not attend a mindfulness course.

Independent sample statistics calculated the mean, standard deviation, and error of both groups. Levene's test for equality of means, t -test statistic, and the relevant p -value were used to determine the statistical significance of any observed mean difference. While this subsample may not be fully representative of the entire population, it allowed a preliminary investigation of key trends and relationships within the data.

Table 21

Independent Samples t-test: Comparison of CAMM Scores Post-Course and CAMM Scores Pre-Course for Students whose Parents Attended a Course and for Students whose Parents did not Attend a Mindfulness Course

Score Difference	Children whose parents completed a course	N	Mean	Std. Deviation	Std. Error Mean
CAMM scores post-course –pre-course	Children whose parents completed a mindfulness course	30	3.43	4.248	.776
CAMM scores post-course –pre-course	Children whose parents did not complete a mindfulness course	189	2.73	5.259	.340

Mean difference between the two groups showed a small difference for the CAMM scores post-course – CAMM cores pre-course (0.70) (Table 21). This small difference is represented visually in the bar graph of Figure 36.

Figure 36

Bar Graph Comparing CAMM Scores Pre-Course and CAMM Scores Post-Course for Students whose Parents Attended a Mindfulness Course and for Students whose Parents Did Not Attend a Course

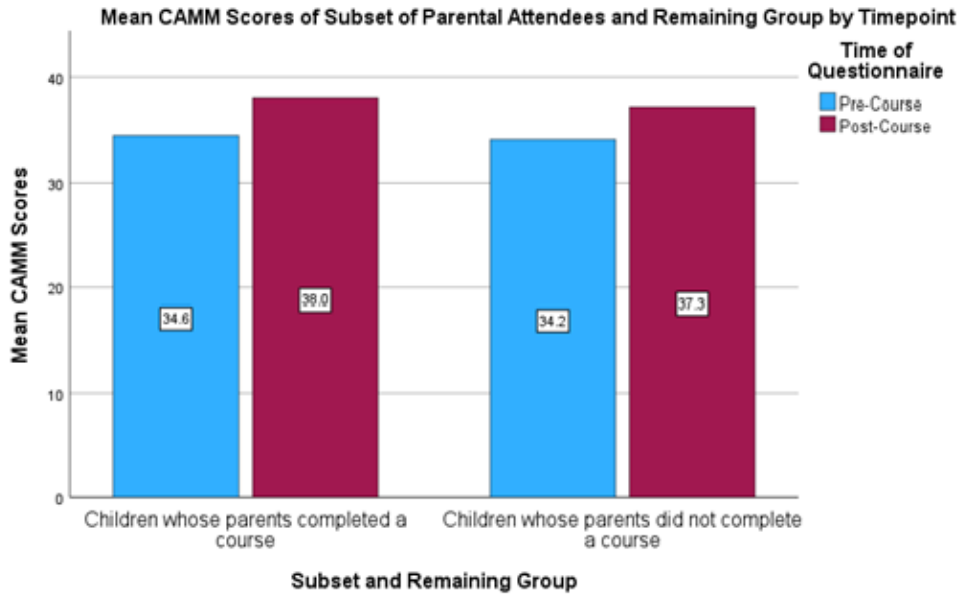


Table 22

Independent Samples t-test: Score Difference for Subset Compared to Whole Group

		t	df	Two-sided p	Mean difference	95% Confidence Interval
Score Difference	Equal Variances Assumed	.702	217	.484	.701	-1.266, 2.669

An independent samples t-test showed no statistically significant difference in score improvement between children whose parents attended a course ($M = 3.43$, $SD = 4.25$) and those whose parents did not ($M = 2.73$, $SD = 5.26$), $t(217) = 0.702$, $p = 0.484$, assuming equal variances (Table 22).

The mean difference was 0.70, with a 95% confidence interval from -1.27 to 2.67, indicating that the true difference could be zero or negative.

Table 23

Effect Size: Whole Group compared to Subset

		Standardiser ^a	Point Estimate	95% Confidence Interval
Score_Diff	Cohen's d	5.15898	.136	-.244, .516

Cohen's d uses the pooled standard deviation.

The analysis revealed a small effect size (Cohen's $d = 0.136$), (Table 23) indicating that the difference between the two-group means was relatively small. The assumption of equal variances was assessed using Levene's test. A non-significant (p -value = $0.253 > 0.05$) result shows that the two variances are approximately equal. We conclude that there is no statistically significant difference between the mean CAMM scores.

Overview of Test 5 Results

Although a small effect size was revealed (Cohen's $d = 0.136$), the conclusion was there is no statistically significant difference between the CAMM mean scores of the children whose parents completed a mindfulness course and the mean scores of those children whose parents did not complete a mindfulness course.

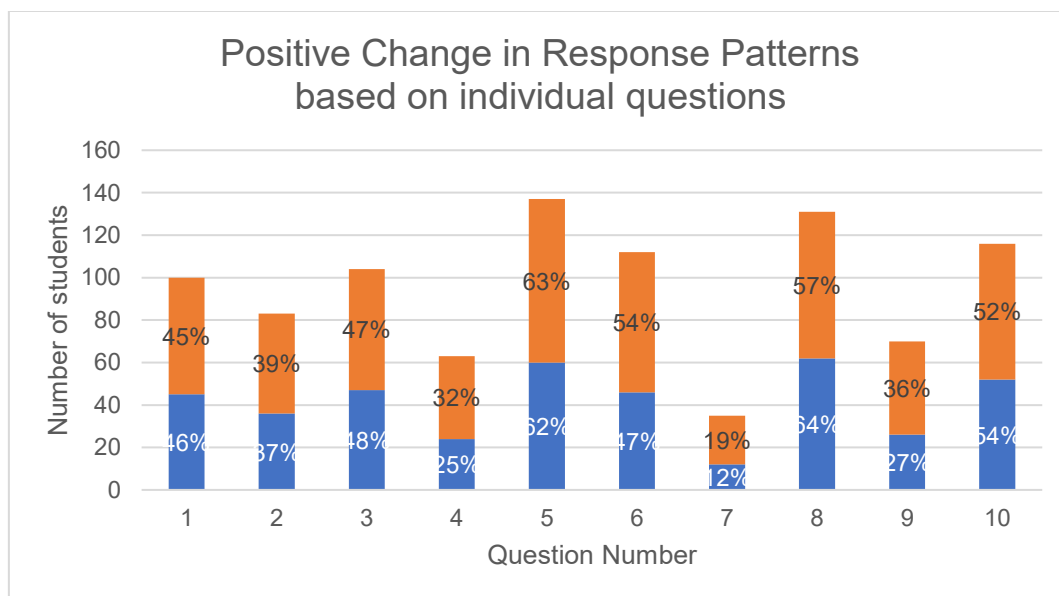
5.8 Item Analysis Test 6

Additional item analysis of CAMM pre-MCR and CAMM post-MCR completed in Microsoft Excel for the collective of students in 3rd to 6th classes to identify aspects of mindfulness measure that showed the greatest increase in scores; the greatest decrease in scores; and areas which remained the same.

Item Analysis: Positive Change in Response Patterns

Figure 37

Positive Change in Response Patterns based on Individual Questions for 3rd to 6th classes

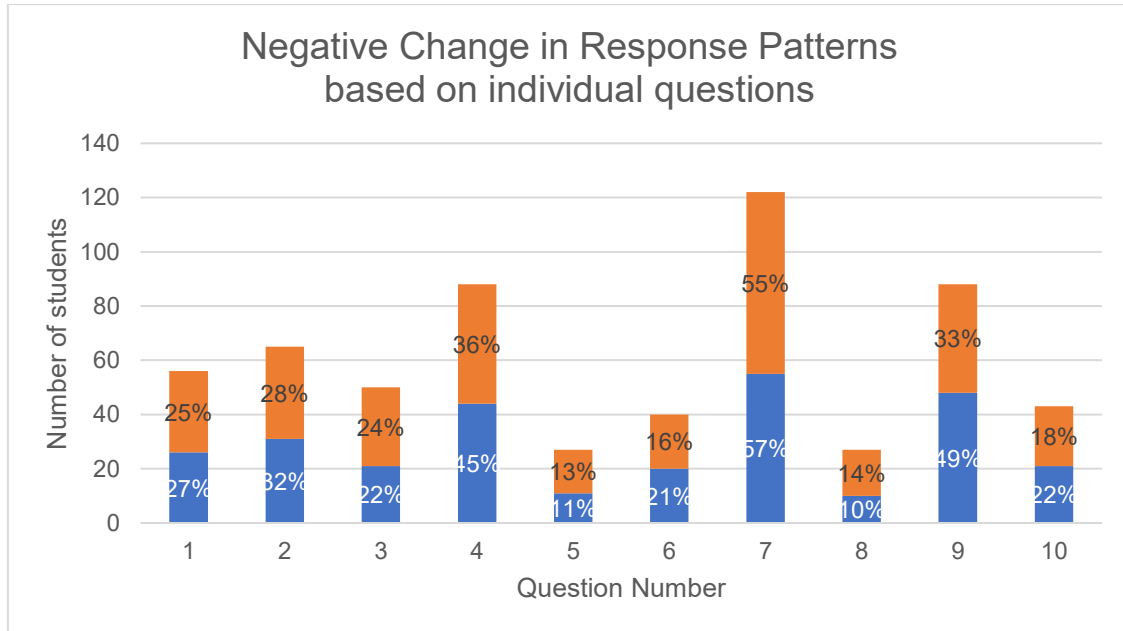


As can be seen in Figure 37, overall, the highest positive change was observed in Question 5 (males: 62%, females: 63%) and Question 8 (males: 64% and females: 57%). These items demonstrate strong post-course improvement. Conversely, Question 7 recorded the lowest positive change (males: 12%, females: 19%), indicating limited benefit from the course on this question. In most questions, female participants performed slightly higher positive change than males. However, males outperformed females in Questions 5 and 8.

Item Analysis: Negative Change in Response Patterns

Figure 38

Negative Change in Response Patterns based on Individual Questions for 3rd to 6th classes

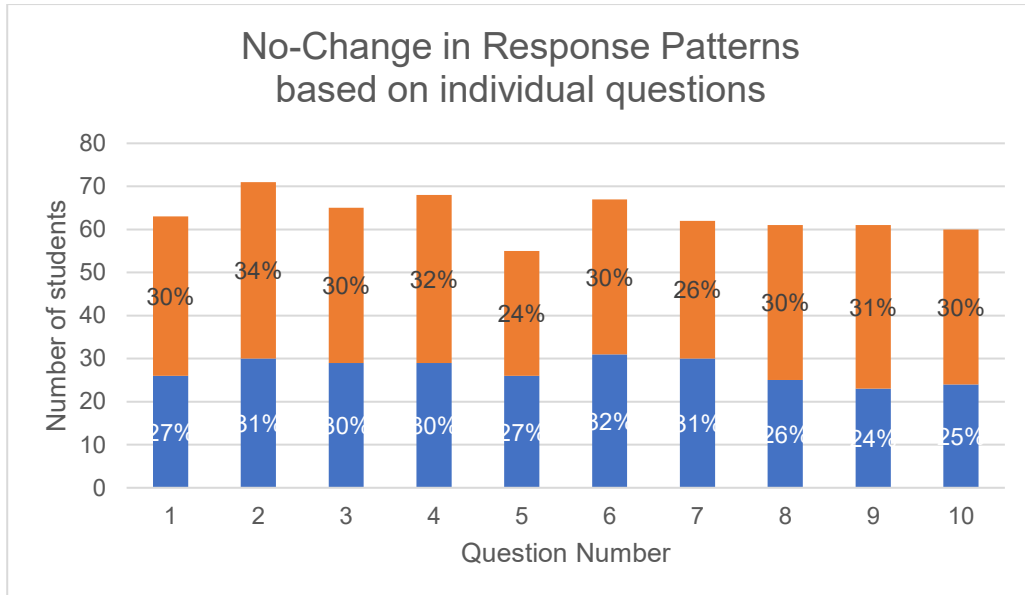


As can be seen in Figure 38, negative change patterns highlight areas of potential concern. The most pronounced decline occurred in Question 7 (males: 57% and females: 55%), with over half of the participants performing worse in the post-course questionnaire. In contrast, the smallest negative change was seen in Question 5 (males: 11% and females: 13%), further reinforcing its positive outcome profile. Gender differences in negative change were generally minimal, with no consistent pattern favouring either group.

Item Analysis: No Change in Response Patterns

Figure 39

No Change in Response Patterns based on Individual Questions for 3rd to 6th classes



As can be seen in Figure 39, the proportion of participants showing no change in responses was relatively stable across items, generally ranging from 24-34% for both genders. The highest no-change rates occurred in Question 2 (males: 31%, females: 34%) and Question 4 (males: 30% and females: 32%). The lowest was observed for Question 5 among females (24%), suggesting a greater likelihood of movement (positive and negative) on this question

Overview of Item Analysis Key Findings

Analysis showed that Questions 5 and 8 yielded the most favourable outcomes, with the highest positive change (up to 64%) and low negative change rates (<13%). In contrast, Question 7 showed the poorest performance with the lowest positive change (<19%) and the highest negative change (>55%). No-change rates were generally consistent across all items (24-34%), suggesting that most participants either improved or declined rather than remaining static. Gender differences were modest overall, though males slightly outperformed females on the strongest-performing questions.

5.9 Integration

Quantitative Data of CAMM scores integrated with Responses from Children in 4th to 6th classes regarding Enjoyment of the Mindfulness Programme and Further Engagement Following Completion of the Programme

As outlined in Chapter 3: Methodology, quantitative and qualitative data addressed very different aspects of the research questions in this study and as such were not triangulated. Qualitative data captured children's lived experiences of how they experienced the mindfulness course and how they engaged with mindfulness practice and were analysed thematically at individual levels. Quantitative data in the form of mindfulness measures were collected from children in 3rd to 6th classes pre- and post-intervention via the CAMM (Greco et al., 2011) survey and were analysed by whole group, by class level and by gender. As there was no opportunity for validation of cross findings, triangulation of the data sets would not have been beneficial.

However, a whole-school study by Sheinman et al. (2018) conducted in three Israeli schools, investigated age and gender differences in children's disposition to use mindfulness-based coping strategies in real-life situations within the context of Whole-School Mindfulness in Education (WSMED) programmes. Key findings of the study revealed significant differences related to age and gender in how children engaged with mindfulness

Age Differences:

1. 10-year-old children showed a significantly greater disposition to apply mindfulness-based strategies than 9, 11, and 12-year-olds. This was true regardless of their degree of engagement in mindfulness practices across all three schools in the study.
2. Specifically, 10-year-old students tended to use more mindfulness-based coping strategies than students in any other age group
3. Nine-year-olds, in contrast, showed the lowest disposition to use mindfulness-based coping strategies.
4. There was no significant difference between 11 and 12-year-old children in their disposition to use mindfulness-based coping strategies.
5. The study found no prior data in the literature on a possible association between children's age and their response to mindfulness, suggesting this is an area for future exploration (Sheinman et al., 2018, p. 3325)

Gender Differences:

1. Girls had a significantly higher tendency to apply mindfulness-based strategies than boys.
2. Girls consistently showed a higher disposition to generate mindfulness-based coping strategies, irrespective of their age
3. Similar to age differences, the researchers found no data in the literature on gender differences and their influence on mindfulness-based outcomes, and past research on gender differences in children's coping strategies has yielded mixed results. This indicates a need for future studies to address this topic (Sheinman et al., 2018, p. 3325).

At the time of reviewing the Sheinman (2018) study, Statistical Analysis Tests 2 and 3 as outlined below had been completed.

Statistical Analysis Test 2 had conducted a paired samples *t*-test comparing the means of post-course and pre-course CAMM scores of students in 3rd to 6th classes, grouped as a single cohort, stratified by gender, to investigate if the variable of student gender impacted CAMM scores at an overall level. Text results showed an increase of scores for boys ($M = 2.63$) and an increase of scores for girls ($M = 3.59$), demonstrating a statistically significant score difference for both genders. However, although girls performed better than boys (Table 13), results showed that there was no statistically significant difference between boys and girls, allowing for the conclusion that the variable of gender did not impact overall CAMM scores.

Statistical Analysis Test 3 had conducted a paired samples *t*-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, to investigate if the variable of student class level impacted CAMM scores. Results (Table 15) indicated a statistically significant increase in CAMM scores post-course, for students in each of the classes. CAMM scores post-course were inversely proportional to student class level, where younger students had higher scores than older students. Students in 3rd, 5th and 6th classes showed similar post-course increases ($M = 2.79, 2.91, 2.74$). The study identified 4th class with the largest score improvement in Mindfulness scores with an average increase of 4.64 observed ($M = 4.64, SD = 5.42, 95\% CI [2.95, 6.33]$). CAMM scores post-course in 6th class showed the smallest score improvement ($M = 2.74, SD = 4.34, 95\% CI [1.44, 4.04]$). Although increases in CAMM scores post-course differed, results indicated that the mindfulness course was effective in increasing CAMM scores independent of class levels.

These findings were somewhat aligned with those of Sheinman et al. (2018) who indicated that 10-year-old students in Israel (who are of a similar in age level to 4th class students in Ireland), tended to use more mindfulness-based coping strategies than students in any other age group. As Sheinman et al (2018) had found that gender was a factor in children's engagement with mindfulness (girls had a significantly higher tendency to apply mindfulness-based strategies than boys; and girls consistently showed a higher disposition to generate mindfulness-based coping strategies), it was decided at that point to integrate the quantitative data with binary data collected as Yes/No responses from children in 4th to 6th classes, to examine more closely if the variable of gender impacted CAMM post-course scores. (See Tables 6 and 7 presented in Chapter 4 Theme 5).

The binary data in Tables 6 and 7 clearly showed that gender was a factor related to children's enjoyment of the course and their willingness to continue to engage with practice following completion of the course with girls showing greater enjoyment and a greater disposition to continue with practice.

A further t-test was then conducted (**Statistical Analysis Test 4**) to look at individual classes stratified by gender to get a more comprehensive picture of possible gender-related factors. An additional paired samples *t*-test was conducted, comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, stratified by gender, to investigate if the variable of gender impacted CAMM scores within individual class levels (Table 19). Results indicated a statistically significant increase in CAMM scores for each class. In each individual group, there was a consistent improvement in recorded CAMM Scores after completing the course, regardless of class level or gender. The mean score improvements range from +2.2 to +5.0 points from the pre-course scores to the post-course scores. The largest gains were observed in 4th class by girls (+4.73) and by boys (+4.46). The smallest gain was observed by boys in 3rd class (+2.12).

The results indicated that the course had a statistically significant and practically meaningful positive impact on mindfulness scores regardless of class level or gender. Significantly, gains were most pronounced in 4th class (Average age 10) for both genders. Results concluded that the variable of gender did not impact overall CAMM scores.

Chapter 5 has presented an overview of the results from analysis of the quantitative data. Chapter 6 brings the thesis to a close with a discussion of findings in relation to the research questions.

Chapter 6: Discussion

As outlined in the introductory chapter, the focus of this research is an exploratory case study on a whole-school community approach to mindfulness in a primary school setting. While the nature of an exploratory study is such that it is open-ended and does not attempt to test a hypothesis, it requires foundational questions to guide the research process. Within this discussion it is intended to re-visit those questions as outlined in Chapters 1 and 3 in light of the findings of Chapters 4 and 5.

Research questions underpinning this study asked if children engage in a mindfulness course in their classroom as part of a whole- school MBI: (1) What are the associated outcomes for participating children? (2) Will children engage in mindfulness practice beyond the classroom? (3) Will engagement in an 8-week mindfulness course impact children's post-intervention mindfulness measure when compared with pre-intervention measure? (CAMM; Greco et al., 2011).

This discussion is framed by how the findings address these questions. It is beyond the scope of this chapter to discuss all findings so the discussion will be limited to addressing those that are pertinent to the research questions. Findings are aligned with literature in the current evidence base of mindfulness interventions with children and young people, towards highlighting the significance of the contribution of this study to the current research field. Merging this study with current research leads to recommendations for future research in the field with implications for educational policy and practice.

6.1 Associated Outcomes for Participating Children

In responding to the research question: *What are the associated outcomes for participating children?* a main outcome revealed by data was how children across all age levels demonstrated a core understanding of the concept of mindfulness appropriate to their developmental stage. This is particularly well aligned with the fact that this is a study of an MBI with young children in an educational context. When asked how they might explain mindfulness to a friend, responses were broad and varied, but through thematic analysis, were described within the categories of Being Present; Paying Attention; Noticing; Focus and Concentration; Training the Mind; and as a support for Wellbeing. From the youngest to the oldest, children demonstrated an understanding of mindfulness as being anchored in the present moment. At an older level, they realised the potential of the practice to support their wellbeing through non-reactive behaviour – a crucial stepping stone in their being able to decentre and self-regulate. It is important that we don't

underestimate children. While they may not have the ability to explain mindfulness at a theoretical level, their explanations however simplistic, align closely with the theoretical definitions of mindfulness as outlined in Chapter 2. Children spoke of mindfulness as "living in the moment" and "not thinking about what happened before" which aligns with Black (2011) who defines mindfulness simply as engagement with the present moment.

In a search of literature on school-based MBIs that extended well beyond the 17 studies reviewed, the researcher found no documentation of children describing the core concept of mindfulness. When asked "What is mindfulness?" documented responses include: "It gives us a chance to have a quiet space, do things differently, to be nicer to our friends;" (Duff, 2024, p. 193), and "I try to do mindfulness at my house" (Holt et al., 2022; p. 222). Many qualitative studies documented children demonstrating an understanding of the practical applications of mindfulness and how it supports them (Hutchinson et al. 2018; Kempf et al., 2024; Sheinman et al., 2018; Ventura et al., 2023); but no evidence was found of children being able to explain mindfulness at a foundational level.

This study is unique in its provision of this evidence of children's understanding of mindfulness and as such makes a significant contribution to the research field. During the children's mindfulness courses in their classrooms, considerable time was purposefully spent ensuring that children developed a clear understanding of the concept of mindfulness. This investment of time proved valuable, as it provided the children with a foundational knowledge which they were able to translate into practice.

The researcher would therefore argue that all MBIs must incorporate core conceptual understanding, if participants are to develop a solid foundation upon which to build practice. This has implications both for the development of future school-based mindfulness programmes and for schools implementing those programmes, in that time is spent giving children a platform from which to develop meaningful mindfulness practice. It also has implications for teacher education to ensure that those facilitating mindfulness programmes have adequate training to impart this knowledge in an effective manner. In the absence of this foundation, there is a danger that mindfulness training in schools becomes meaningless, consisting of disjointed techniques such as listening to a mindfulness bell over a school intercom system or engaging in mindful colouring activities. Such fragmented practices risk undermining the potential of mindfulness, preventing participants from experiencing its true depth and transformative power.

6.2 Children Practising Mindfulness Beyond the Classroom

In addressing the research question: *Will children engage in mindfulness practice beyond the classroom?* data revealed how children were able to translate their core understanding of mindfulness into meaningful practice within the fabric of their daily lives, both as individuals and as shared practice within their families and wider community. This fostered the development of a shared understanding and shared language of mindfulness within families, with many children reporting mindful walks where children and parents practised intentional mindful looking and listening together. There were also many reports of children teaching mindfulness techniques to parents and friends along with accounts of families supporting one another to self-regulate through mindful breathing techniques, in a very open manner. This active involvement of parents was pivotal in extending practice beyond the classroom to the home and played a crucial role in the creation of a supportive mindful community as part of a whole-school approach.

A key aspect of practising mindfulness within a supportive community is the potential of a community to normalise mindfulness practice. Children reported being quite happy to practise in front of peers in the classroom as there was now a shared understanding of what was taking place. This aligns with the findings of Hutchinson et al. (2018) who report that “an understanding community helps support both concentration and focus,...as well as a feeling of safety. Seeing others practise could be inspirational too and a counter-weight to embarrassment” (p. 3945). This viewpoint was reinforced by a parent who reported how his children thought it was very cool to have Dad practising mindfulness with them.

Rather than confining mindfulness to classrooms, the manner in which children integrated practice into the fabric of their daily lives at a community level of families and friends, is aligned with literature which views the fostering of a supportive community with shared language and understanding of mindfulness, as essential for sustained benefits.

A number of studies (De Jong & Kerr-Roubicek, 2007; Weare & Gray, 2003; Weare, 2015) advocate a whole-school approach that promotes the engagement of the broader school community in mindfulness initiatives. Effective implementation requires widespread participation and adaptation to each school’s unique culture. Respecting “school culture and climate” and avoiding the sense of an external “imposition” are vital for programme acceptance (Kielty et al., 2017, p. 322). When families learn calming strategies such as mindful breathing, children are more likely to apply those practices in stressful situations outside school. Incorporating parent feedback in both research and

programme evaluations is also recommended to fully assess whole-school interventions (Sheinman et al., 2018).

Literature increasingly demonstrates that adopting a whole-school community approach has the potential to yield significant social and educational benefits for children and young people (Weare & Gray, 2003; Weare, 2015). However, the relevance of this approach lies not only in its broad claims of effectiveness but also in its capacity to embed wellbeing practices within the daily life and culture of schools. For example, De Jong and Kerr-Roubicek (2007), in proposing a framework for pastoral care, argue that schools must be responsive to the wider community, engaging parents and families in meaningful dialogue around curriculum, values, and systems of support. This perspective is particularly significant because it positions wellbeing as a collective responsibility, rather than an add-on initiative or an individualised intervention. Similarly, Weare (2015), in her advisory work for the UK Partnership for Wellbeing and Mental Health in Schools, emphasises the importance of collaboration across the whole school community, highlighting that sustainable change requires the active participation of all stakeholders. The endorsement of such approaches at policy level further underscores their relevance: in Ireland, the Department of Education and Skills (2018) advocates a preventative, multi-component, and evidence-informed model in its Wellbeing Policy Statement and Framework for Practice 2018–2023. This policy framing reflects a recognition that piecemeal or fragmented initiatives are insufficient to address the complex and systemic nature of wellbeing in education. Therefore, a whole-school approach is not only advocated by research and policy, but its potential benefits are documented in the voices of both the children and parents in this study, aligning with the argument that mindfulness, when implemented within an integrated, collaborative, and systemic framework, has greater potential to influence both student wellbeing and the broader system.

Current empirical literature on school-based MBIs further supports these calls with consistent recommendations for expanding mindfulness interventions beyond the classroom and into children's home lives. D'Alessandro, et al. (2022), recommend “encouraging students to pursue mindful living outside of the classroom” to cultivate a lifestyle of mindfulness beyond the school setting (p. 2108), while Ventura et al. (2023) suggest “engaging caregivers earlier” in whole-school programmes to reinforce the use of mindfulness strategies at home (p. 18). In their long-term, whole-school implementation of a "Mindful Language" programme in three Israeli primary schools, Sheinman et al. (2018), recommends sustained, pervasive exposure within a whole-school model for transfer of skills beyond the school.

This study provides an abundance of qualitative evidence of how a comprehensive whole-school community approach effectively facilitates the integration of mindfulness into children's lives beyond the classroom setting. The reported first-hand experiences of parents and children offer invaluable insights into the development of a shared language and practice of mindfulness, thereby addressing a significant research gap in gaining further understanding of the implementation of mindfulness at a school community level. The findings demonstrate the essential role played by the collective of stakeholders - teachers, students, and parents, in order to maximise the overall effectiveness of MBIs.

These recommendations have significant implications for educational policy and practice necessitating structured frameworks for whole-school implementation. While programmes such as MindUp (Ventura et al., 2023) and Mindful Language (Sheinman et al., 2018) illustrate effective models, the literature emphasises the need to underpin whole-school mindfulness programmes with theoretical and developmental frameworks that can be adapted for diverse contexts and demographics (Dunning et al., 2019; Holt & Atkinson, 2022; Kander et al., 2024; McKeering & Hwang, 2019; Pickerell et al., 2023).

An additional implication going forward concerns the crucial role of teachers with effective implementation dependent on school-wide commitment. Ventura et al. (2023) emphasises the importance of teacher support for positive learning outcomes (Ventura et al., 2023). This requires teacher buy-in at a "grassroots" level, rather than a top-down imposition (Kielty et al., 2017, p. 322). As teachers' confidence in delivering mindfulness practices significantly impacts student outcomes (Piotrowski et al., 2017; Holt et al., 2022; D'Alessandro et al., 2022), adequate provision of teacher education, encompassing personal practice, modelling, and ongoing supervision, is essential (Holt & Atkinson, 2022; Kander et al., 2024; Holt et al., 2022; Kempf et al., 2024; Piotrowski et al., 2017; Keller et al., 2017).

As research evidence indicates that family involvement is essential for long-term effectiveness (D'Alessandro et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024), implementation frameworks need to incorporate a structure to guide the inclusion of the wider community of parents and families. Ventura et al. (2023) recommend research on methods of developing a shared language and understanding of mindfulness with parents and other stakeholders, including research on how mindfulness courses might be offered to parents within a whole-school approach. Suggestions include engaging caregivers earlier to reinforce strategies at home and demonstrating techniques at parent events (p. 18). Sheinman et al. (2018) advocate for future research to include the collection and

analysis of data from teachers' and parents' perspectives to inform future models of whole-school implementation, further fostering a culture of a supportive community.

In summary, while literature provides strong evidence of the potential of a whole-school community approach to mindfulness to foster wellbeing in young people, such an approach requires careful planning with further research at government and policy level. Development of frameworks should be adaptable to suit diverse contexts within inclusive education models. A crucial component of such frameworks must also include provision of high-quality teacher education with continued support, and comprehensive methods of inclusion of the wider community, including parents and families.

6.3 The Potential of Mindfulness to Support Self-Regulation in Children

A main outcome of this study was how children demonstrated enhanced emotional self-awareness with the ability to identify and name difficult emotions and employ a self-regulatory intervention, when prompted by the need to self-regulate. This finding of dysregulation prompting intervention is supported by Hutchinson et al. (2018) who state that “The children seemed to practise mindfulness to help them regulate emotionally, and the practice itself was usually initiated by a dysregulation prompt. This included feeling prompts, like anger, sadness, worry or frustration, difficult thought prompts, challenging situational prompts, particularly interpersonal ones, and sensation prompts, usually discomfort” (p. 3942).

This recognition of when to act became a crucial first step in a journey toward effective, independent self-regulation. Older children reported how the “Hot Cross Bun” model was effective in supporting them to pause and step back from reactive behaviour and choose a response in a calm manner. Many parents confirmed these findings, reporting improvement in their children's ability to calm down and navigate emotionally challenging situations with greater ease. “...stepping back, being able to create enough space to see what was happening in the present moment from a different perspective... understanding that what was happening in this moment was a stress reaction enabled an observer stance, a de-centering” (Hutchinson et al., 2018, p. 3941).

This finding is strongly supported by existing literature with many studies reporting the beneficial role of mindfulness to promote emotional regulation. Hutchinson et al. (2018) found that children regularly applied mindfulness techniques when prompted by dysregulation. Additionally studies supported the finding that breathing was the most common mindfulness technique used by students (Bannirchelvam et al., 2017; Ventura et

al., 2023) In alignment with findings of children stepping back from difficult situations and taking a mindful pause, qualitative studies highlight children's use of mindfulness techniques to calm down and cope with challenging emotions, moving away from reactive behaviours to more measured, calm responses (Hutchinson et al., 2018; D'Alessandro et al., 2022; Kempf et al., 2024; Sheinman et al., 2018). A study of teachers' perspectives of students engaging in mindfulness practices in the classroom also supports these findings, reporting calmer classrooms, improved student behaviour, and an increase in students' self-control following a mindfulness practice (Holt et al., 2022; Piotrowski et al., 2017). This improved self-regulatory capacity extended beyond the classroom to everyday life, with reports of children independently applying self-regulatory skills both at school and in the home (Holt et al., 2022; Kempf et al., 2024). Meta-analyses further substantiate the findings of mindfulness fostering children's ability to self-regulate, identifying small-to-moderate effect sizes for mindfulness-based interventions (MBIs) on emotional and behavioural regulation among preadolescents (Kander et al., 2024; Pickerell et al., 2023).

While children's ability to self-regulate following mindfulness training, features as a prominent finding across MBI studies, this study makes a significant contribution to the field by its abundance of data of (1) children's first-hand accounts of *how* they learned to manage emotional overwhelm; (2) children reporting agency in knowing they could support themselves in self-regulation; (3) how an emphasis placed on "Ok not to be OK" was hugely significant in helping children to normalise emotional challenge, step back in times of distress and be more objective about difficult feelings. These are discussed further below.

(1) Rich descriptions of children documenting how they learned to manage emotional overwhelm: A significant contribution of this study to the evidence base is the descriptions of children demonstrating the ability to calm themselves and regain control when feeling overwhelmed emotionally. When faced with specific challenges of anger or upset, children described how they had learned to self-soothe and maintain emotional balance with one child reporting: "I learned how to stop being angry." The responses show that children learned to be more in control of their emotions, a skill that empowered them with a common-sense approach to view emotional responses as normal everyday occurrences. As evidenced in comments, they described how they now possessed practical coping mechanisms for self-regulation.

(2) Children reporting newfound agency in taking control: An additional significant contribution of this study is the documented reports of many children taking personal responsibility for their own wellbeing following the mindfulness intervention. Children

reported taking ownership of emotional challenges with the realisation that they could support themselves in the navigation of difficulties: “if your [you’re] angry you can do a lot of things to help you”; “If I get angry I know what to do.” The realisation that they had the power to help themselves allowed children to see mindfulness as a practical tool at their disposal, to be used whenever needed for managing difficult emotions: Perhaps the most profoundly, significant statement in terms of agency came from the reflections of a 9-year-old boy who declared: “I learned to be happy when I am having a bad day.”

(3) *The power of knowing that it’s “OK not to be OK:”* A substantial takeaway for children from their mindfulness programme was the acceptance that “It is OK not to be OK” and the acknowledgement that it is OK to ask for help. Rather than avoid or suppress difficult emotions, children documented that they had learned to accept and normalize them. They took great comfort from the fact that it was absolutely normal to have days when they felt angry, unhappy or experienced other difficult emotions with children expressing that “it is ok not to feel ok so when your [you’re] feeling unhappy or mad that it is completely normal to feel that way.” Listening to other children describe their anxiety, stress, sadness and worries served as a breakthrough moment of realization for many, that they were not alone. Children linked this realization with the Hot Cross Bun and in the knowledge that thought processes of the mind were often the likely cause of them not being OK, they were able to rationalise the emotion and see a way of managing the situation without “overthinking things.”

The children’s reflections demonstrated a significant shift in their attitudes to emotional difficulty. They learned that acceptance of difficult emotions and vulnerabilities combined with actively seeking help are vital aspects of self-care in managing their mental and emotional wellbeing.

This study makes a significant contribution to the current evidence base in its provision of such rich descriptions of children’s first-hand accounts of the practical and successful application of mindfulness for self-regulation in times of emotional challenge. It directly addresses an identified research gap concerning the omission of the child’s voice in reporting engagement with and the perceived benefits of mindfulness-based interventions (Bannirchelvam et al., 2017; D’Alessandro et al., 2022). Additionally, the detailed documentation of how children utilised the “Hot Cross Bun” model offers an insight into the mechanisms underpinning their developing self-regulatory capacity within the mindfulness intervention.

At a time when increasing attention is being given to the mental health of children and young people, these findings suggest that mindfulness programmes may

have a valuable role within primary school curricula, both as preventive and interventive measures to support children's wellbeing. This aligns with literature that calls for a whole-school community approach to foster social-emotional competencies and resilience in children, with a need for guiding policies to equip children with lifelong self-regulation tools (Duff, 2024; Sheinman et al., 2018). A further implication is the need for comprehensive teacher education to bring this about. It is essential that mindfulness teachers in school are adequately equipped to deliver mindfulness-based emotion regulation strategies to ensure effective and sustainable implementation.

6.4 Contribution of this Study to Research Gaps in the Field

This study makes a substantive contribution to the evidence base on MBIs in educational settings by directly addressing identified research gaps. A central gap has been the relative dearth of qualitative research exploring participants' first-hand experiences of mindfulness in school contexts (Bannirchelvam et al., 2017; D'Alessandro et al., 2022; Duff, 2024; Holt & Atkinson, 2022; Hutchinson et al., 2018; Kempf et al., 2024; Pickerell et al., 2023; Sheinman et al., 2018). "In the majority of studies, only teacher and parent feedback are elicited, omitting a considerably significant voice - that of the students" (D'Alessandro et al., 2022, p. 2108). Hutchinson et al. (2018) states that "very few studies have explored how children experience and apply mindfulness" and to "understand how children embed and apply the mindfulness skills they learnt in school to the challenges they face in their lives" and "to explore and understand the children's perceptions and experiences" (p. 3937).

In a field dominated by quantitative measures, Duff (2024) recommends the capture of data "outside the bounds of adult thinking" (p. 189). This study aimed to fill this gap by exploring student opinions and perceptions regarding the implementation of a classroom-based mindfulness programme. By adopting a qualitative-dominant, mixed-methods design, it captures the first-hand perspectives of children, staff, and parents as they navigate a mindfulness programme. As there is a consensus among qualitative studies on MBIs with children that "the child's voice has been largely underrepresented" (Bannirchelvam et al., 2017, p. 2), the emphasis on children's voices, in particular, in this study offers critical insights into participants' lived experiences of mindfulness, thereby addressing a crucial gap in existing literature.

In addition, there has been a consistent call for further research on the implementation of MBIs at a whole-school level, extending interventions beyond classroom-based programmes to include all stakeholders, including teachers, parents,

and caregivers (D'Alessandro et al., 2022; Keller et al., 2017; Kielty et al., 2017; Kempf et al., 2024; Sheinman et al., 2018; Ventura et al., 2023). This study pioneers a comprehensive, whole-school community approach within a large Irish primary school, engaging over 540 children, staff, and a cohort of parents in structured, manualised mindfulness programmes over a two-year timeframe. The study adds to the growing body of evidence on the implementation of whole-school mindfulness programmes with primary school children, with the findings providing valuable insights into the feasibility and potential benefits of such an integrative model.

The study also targets a specific population of primary school children, aligning with recommendations to strengthen evidence of developmental specificity and age-related effects. By integrating quantitative data from the Child and Adolescent Mindfulness Measure (CAMM) with qualitative findings, this study provides a more comprehensive understanding of the impact of MBIs in this specific age range and context.

6.5 Impact of the Mindfulness Course on Quantitative Measures

One of the underpinning research questions asked: *Will engagement in an 8-week mindfulness course impact children's post-intervention mindfulness measure when compared with pre-intervention measure?* (CAMM; Greco et al., 2011). This section will focus on discussing the impact of the mindfulness course on quantitative measures of post-intervention scores compared with pre-intervention scores with statistical analysis of scores when analysed as a collective group from 3rd to 6th class, when analysed at individual class levels, and when analysed by gender at individual class levels.

A paired samples *t*-test compared the means of post-course and pre-course CAMM scores, for all students from 3rd to 6th classes grouped as a single cohort. The results of the paired samples indicated a high statistically significant difference between post-course and pre-course CAMM scores $t(218) = 9.40, p < 0.05$. On average, CAMM scores post-course were 3.16 points higher than CAMM scores pre-course (95% CI [2.50, 3.82]) (Table 9). Cohen's $d = 4.9$, indicates a huge impact of the course on students' overall CAMM scores post-course for the collective of students from 3rd to 6th classes. An additional paired samples *t*-test compared the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, to investigate if the variable of student class level impacted CAMM scores. Results (Table 16) indicated a statistically significant increase in CAMM scores post-course, for students in each of the classes. CAMM scores post-course were inversely proportional to student class level, where younger students had higher scores than older students. Students in 3rd, 5th and 6th classes showed similar

post-course increases ($M = 2.79, 2.91, 2.74$). The study identified 4th class with the largest score improvement in Mindfulness scores with an average increase of 4.64 observed ($M = 4.64, SD = 5.42, 95\% CI [2.95, 6.33]$). CAMM scores post-course in 6th class showed the smallest score improvement ($M = 2.74, SD = 4.34, 95\% CI [1.44, 4.04]$). Although increases in CAMM scores post-course differed, results indicated that the mindfulness course was effective in increasing CAMM scores independent of class levels.

A paired samples *t*-test comparing the means of post-course and pre-course CAMM scores for each class level from 3rd to 6th, stratified by gender, was conducted to investigate if the variable of gender impacted CAMM scores within individual class levels. Results (Table 19) indicated a statistically significant increase in CAMM scores for each class. In each individual group, there was a consistent improvement in recorded CAMM Scores after completing the course, regardless of class level or gender. The mean score improvements range from +2.2 to +5.0 points from the pre-course scores to the post-course scores. The largest gains were observed in 4th class by girls (+4.73) and by boys (+4.46). The smallest gain was observed by boys in 3rd class (+2.12). The results indicate that the course had a statistically significant and practically meaningful positive impact on mindfulness scores regardless of class level or gender. Gains were most pronounced in 4th class for both genders. The moderate correlations in younger groups suggest the intervention may have been especially effective in enabling lower-scoring students to make substantial gains.

While these results showed that participation in a mindfulness class as part of whole-school MBI impacted the scores of all the children from 3rd to 6th classes there is a need for caution. Children self-reported on the CAMM measure. They were advised to complete the survey with a parent or trusted adult, but it was clear from discussion during exit interviews that many students completed the survey on their own. This leads to the potential of social desirability effect impacting the scores. Children in the upper classes were very interested in the knowledge that they were participating in a research project and it was clear from discussions that they wanted the project to be successful, adding to the potential for social desirability.

Contrary to this view, class discussions on the normality of emotional upheaval along with the CBT model of the Hot Cross Bun impacted many of the older children who were eager to improve their ability to decentre in times of emotional challenge. Many displayed an immense interest in brain mechanisms in relation to mindfulness, particularly the role of the amygdala. When they realised that mindfulness practice could potentially reduce the size of the amygdala, many of these older children were sufficiently enthralled

at the prospect that they independently researched brain plasticity. They were eager to practice for optimum brain power, to be able to navigate emotional challenges, to focus better on sports and music. All of this was hugely motivational for them to engage with mindfulness practice and may well have supported the significant statistical effect of the increase in scores.

6.6 Limitations

The researcher acknowledges a number of limitations in this study. A notable limitation is the lack of a control group in the overall study design. Although quantitative data from children's pre- and post-intervention CAMM scores were collected, the absence of a comparable non-intervention group makes it challenging to definitively attribute observed changes solely to the mindfulness intervention, as other school or life experiences could have contributed to outcomes.

The researcher's dual role as both MBI facilitator and researcher presents potential for bias. Despite a conscious effort to safeguard against impartiality, the researcher's direct involvement in delivery of the programme had the potential for an unconscious assumption that the project would yield positive results, inadvertently shaping the researcher's observations. With this in mind, several mechanisms were employed to reduce the potential for bias: contemporaneous field notes in the form of audio recordings were kept by the researcher throughout all stages of the fieldwork; the researcher had undertaken comprehensive training in the teaching of the three MiSP programmes employed in the programme; the researcher is a qualified primary teacher and is also qualified as a teacher of MBSR; the researcher had regular guidance meetings with her supervisor at each stage of both fieldwork and analysis of data; the researcher attended Graduate Training Elements (GTEs) in qualitative, quantitative and mixed methods research; and the researcher delivered all programmes ensuring intervention fidelity.

Reliance on self-reporting for quantitative measures, particularly with younger children, raises concerns regarding accuracy and social desirability bias. Children may have provided responses that they perceived as "socially acceptable" rather than strictly accurate, and their abilities to accurately assess their own mindfulness levels may not be fully developed, impacting the reliability of their responses. To counteract this potential limitation, the researcher advised all children in 3rd to 6th classes of the importance of completing the survey with a parent or trusted adult. Additionally, the CAMM surveys were delivered to the children in sealed envelopes and addressed to parents of the children.

The generalizability of findings may be limited due to the specific demographic and setting of the study. The children in this study primarily come from professional backgrounds with strong parental support systems in a school that has an ethos of being very proactive in getting involved in new ventures. While beneficial for the study, findings may not be representative of other socioeconomic or cultural backgrounds, restricting the transferability of findings to more diverse populations.

The use of specific, manualized Mindfulness in Schools Project (MiSP) programmes (.b and Paws b) suggests that the findings might be specific to these particular curricula and their delivery, rather than generalizable to all MBI programs. This specificity limits the extent to which results can be universally applied across different MBI protocols.

There was an absence of data from teachers. “Focus groups with teachers may have further developed understanding around how children apply mindfulness in their lives” (Hutchinson et al., 2018, p. 3949). As such focus groups were planned for a 3rd phase of the project, the closure of schools due to the Covid pandemic meant that this aspect of the project could not be undertaken within the parameters of this research study.

6.7 Recommendations for Future Research

Based on findings of this study combined with current research, several key recommendations can be made for future research in MBIs in educational settings.

There is a need for further qualitative research on whole-school implementation, gathering the perspectives of all stakeholders inclusive of principals, teachers, parents and caregivers, to provide a more inclusive evaluation of how MBIs function within community settings and assess intervention effectiveness within a community approach (D'Alessandro et al., 2022; Duff, 2024; Holt et al., 2022; Kempf et al., 2024; Sheinman et al., 2018; Ventura et al., 2023).

To support a whole-school community approach to mindfulness, there is a need for the development of structured stage-by-stage implementation frameworks that can be adapted to diverse settings and context.

Greater emphasis should be placed on prioritising children’s voices in future MBI research. Research that captures the voices of children will enable the design of programmes that are more engaging, adaptable, and responsive to children’s needs and preferences (Kempf et al., 2024; Pickerell et al., 2023).

There is a need for further research in developmental specificity of mindfulness school programmes. Adapting the content, duration, and delivery of MBIs to suit the cognitive and emotional capacities of children at different stages is essential. Future research should also consider cultural and contextual adaptability, ensuring interventions are suitable across diverse school environments (D'Alessandro et al., 2022; Holt et al., 2022; Kander et al., 2024; McKeering & Hwang, 2019; Ventura et al., 2023).

More long-term studies are needed to assess the sustained benefits of MBIs. The current evidence base lacks comprehensive follow-up data making it difficult to ascertain long-term outcomes (Holt & Atkinson, 2022; Kander et al., 2024; Pickerell et al., 2023; Sheinman et al., 2018).

Future research should explore models that integrate parents and caregivers, investigating the efficacy of family-inclusive interventions. As demonstrated in this study, shared mindfulness practices between children and families can strengthen the sustainability and reach of MBIs. Future research should examine strategies to explore how mindfulness programmes can be taught effectively to both students and parents simultaneously to reinforce the integration of mindfulness into children's daily lives and maximize its impact on overall wellbeing.

In keeping with children of today as “digital natives,” there is a need to research the potential of technology to support both delivery of programmes and participant practice.

6.8 Conclusions

Following the implementation of mindfulness at a whole-school community level in a primary school setting, this exploratory case study presents key outcomes for participating children. The study makes a unique contribution to the research field through its rich descriptions of children's foundational understanding of mindfulness across all age levels from Infant classes to 6th class. Data highlight how children were able to translate this understanding into practice beyond the classroom and integrate it into many aspects of their daily lives. A whole-school community approach to mindfulness, discussed through the lens of research literature, shows the potential of mindfulness to develop a supportive community in which children and adults engage in meaningful practice together.

A core finding highlights the potential role of mindfulness to enhance children's ability to self-regulate at an emotional level, giving them agency to take control of their

wellbeing, normalize everyday emotional challenges and navigate difficult situations more easily.

Key findings are aligned with the evidence base of the current research field which allows for the identification of areas requiring further research. The need for additional qualitative studies that prioritise the perspectives of participants is recognised along with a call for further research on whole-school approaches to mindfulness. Recommendations also emphasise the need for developmentally and contextually appropriate programmes along with long-term studies to assess potential, sustained benefits.

Such conclusions have direct implications for educational policy and practice. At a policy level, the evidence suggests the inclusion of mindfulness within wellbeing programmes in schools, as preventive and interventive measures to support children's mental health, through enabling them to develop lifelong skills for resilience and self-regulation. At practice level, effective implementation requires the development of structured and adaptable implementation frameworks that incorporate comprehensive teacher education and support along with the active engagement of parents and caregivers to ensure continuity and support between school and home.

Ultimately, this study underscores the potential of a whole-school community approach to mindfulness as a foundational tool to support and enhance children's wellbeing in all aspects of their lives.

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Appendices

Appendix A Overview of Systematic Search for Relevant Literature

Initial search for meta-analyses on MBIs with children and young people

Search 1: 4397 results

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Searching: Education Source Ultimate (and 3 more) MyEBSCO

((mindfulness) or (mindfulness-based interventions)) AND (schools or education) AND (children or youth or adolescents or young people)

All filters (0) Full Text Peer Reviewed All time Source type Advanced search

Results: 4,397 Show: 10 Relevance

1 Peer reviewed | Academic Journal

A Systematic Review of Mindfulness-Based School Interventions on Social Emotional Outcomes with Adolescents.

By: Nagpal, Manisha; Radloff, Kisha • In: *Child & Youth Care Forum*, Jun2024 • Education Source Ultimate

Background: **Adolescence** is a critical period for social emotional development. The need to focus on social emotional competencies is exacerbated by the COVID 19 pandemic. Objective: This systematic review paper provides a collective account of **mindfuln...** [Show more](#)

Subjects: [Psychotherapy](#); [Emotion regulation](#); [Human services programs](#); [High school students](#); +15 more

Search 2: 3141 results (3 filters applied)

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((mindfulness) or (mindfulness-based interventions)) AND (schools or education) AND (children or youth or adolescents or young people)

All filters (3) Full Text Peer Reviewed All time Source type Advanced search

Results: 3,141 Show: 10 Relevance

1 Peer reviewed | Academic Journal

GAUGING MINDFULNESS IN CHILDREN AND YOUTH: SCHOOL-BASED APPLICATIONS.

By: Eklund, Katie; O'malley, Meagan; Meyer, Lauren • In: *Psychology in the Schools*, Jan2017 • Education Source Ultimate

Mindfulness is linked to a variety of social, emotional, cognitive, and behavioral well-being indicators in **youth**. Given increased interest among researchers and practitioners, high-quality instruments are needed to effectively measure the construct in **childre...** [Show more](#)

Subjects: [School mental health services](#); [Child psychology](#); [Mindfulness](#); [Youth psychology](#); +1 more

Appendix A continued)

Search 3: 512 results (Refinement of Boolean operators and Search Options)

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Searching: Education Source Ultimate (and 3 more) MyEBSCO

(mindfulness and mindfulness based intervention) AND (school and education) AND (children or youth or young people or adolescents)

All filters (3) Full Text Peer Reviewed All time Source type Advanced search

Results: 512 Show: 10 Relevance

1 Peer reviewed | Academic Journal

A Scoping Review of Mindfulness-Based and Arts-Based Parenting Interventions for Adolescent Mothers.

By: Oystnick, Vivian; Coholic, Diana; Schinke, Robert • In: *Child & Adolescent Social Work Journal*, Dec2024 • Education Source Ultimate

Adolescent parenting often generates serious challenges for adolescents and their infants, including failure to gain education, homelessness, psychological distress, and poor developmental outcomes. Mindfulness-Based Interventions (MBIs) are im... Show more

Subjects: Teenage mothers; Parenting education; Parent-child relationships; Psychoeducation; +14 more

Search 4: 317 results (Exclusion of targeted clinical subgroups)

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Searching: Education Source Ultimate (and 3 more) MyEBSCO

(mindfulness and mindfulness based intervention) AND (school and education) AND (children or youth or young people or adolescents) N

All filters (2) Full Text Peer Reviewed 01/01/2010 - 01/... Source type Advanced search

Results: 317 Show: 10 Relevance

1 Peer reviewed | Academic Journal

A Systematic Review of Mindfulness-Based School Interventions on Social Emotional Outcomes with Adolescents.

By: Nagpal, Manisha; Radloff, Kisha • In: *Child & Youth Care Forum*, Jun2024 • Education Source Ultimate

Background: Adolescence is a critical period for social emotional development. The need to focus on social emotional competencies is exacerbated by the COVID 19 pandemic. Objective: This systematic review paper provides a collective account of mindfulness... Show more

Subjects: Psychotherapy; Emotion regulation; Human services programs; High school students; +15 more

Search 5: 87 results (Addition of search keyword "meta-analysis")

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(mindfulness or MBI) AND (school or education or classroom) AND (children or young people or adolescents) AND (meta analysis or meta-

All filters (3) Full Text Peer Reviewed 01/01/2010 - 01/... Source type Advanced search

Results: 87 Show: 10 Relevance

1 Peer reviewed | Academic Journal

The Limited Effect of Mindfulness-Based Interventions on Anxiety in Children and Adolescents: A Meta-Analysis.

By: Odgers, Katarzyna; Dargue, Nicole; Creswell, Cathy; +2 more • In: *Clinical Child & Family Psychology Review*, Sep2020 • Education Source Ultimate

Anxiety disorders are common mental health problems amongst youth with harmful impacts often extending into adulthood. Mindfulness-based interventions (MBIs) have become increasingly popular for addressing mental health issues, particula... Show more

(Appendix A continued)

Second search for qualitative research studies on mindfulness with children

Search 1: 468 results

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(mindfulness or mindfulness based intervention or MBI) AND (primary school or elementary school) AND children

All filters (0) Full Text Peer Reviewed All time Source type

Advanced search

Results: 468 Show: 10 Relevance

1 Peer reviewed | Academic Journal

"Let's keep calm and breathe"—A *mindfulness* meditation program in school and its effects on *children's* behavior and emotional awareness: An Australian pilot study.

By: Stapleton, Peta; Dispenza, Joseph; Douglas, Angela; +4 more • In: Psychology in the Schools, Sep2024 • Education Source Ultimate

This study aimed to understand how *mindfulness* meditation affects young people by examining its impact on self-regulation, happiness, emotional awareness, and school performance among two groups of *school children*. A 10-week *mindfulness* ... [Show more](#)

Subjects: Young adults; Child behavior; Meditation; Primary schools; +2 more

Search 2: 85 results

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Searching: Education Source Ultimate (and 3 more) MyEBSCO

(mindfulness or mindfulness based intervention or MBI) AND (classroom and primary school or elementary school) AND children NOT ("le

All filters (4) Full Text Peer Reviewed 01/01/2010 - 07/... Source type

Advanced search

Results: 85 Show: 10 Relevance

1 Peer reviewed | Journal, Peer Reviewed Journal

Impact of a *mindfulness-based* program on creativity and *mindfulness* disposition of *school children*.

By: Cheung, Hiu Nam; Hui, Anna N. N. • In: Psychology of Aesthetics, Creativity, and the Arts, Sep 04, 2023 • APA PsycInfo

This study examined the efficacy of a *mindfulness* and art-based training program on the creativity and *mindfulness* disposition of *primary school children*. A total of 132 *school children* ages between 7 and 10 years were randomly assigned to an experi... [Show more](#)

Search 3: 12 results

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Searching: Education Source Ultimate (and 3 more) MyEBSCO

(mindfulness or mindfulness based intervention or MBI) AND (classroom and primary school or elementary school) AND children NOT ("le

All filters (4) Full Text Peer Reviewed 01/01/2010 - 07/... Source type

Advanced search

Results: 12 Show: 10 Relevance

1 Peer reviewed | Journal, Peer Reviewed Journal

A qualitative exploration of *primary school* students' experience and utilisation of *mindfulness*.

By: Bannirchelvam, Bavani; Bell, Karen L.; Costello, Shane • In: Contemporary School Psychology, Dec 2017 • APA PsycInfo

Despite the increasing utilisation of *mindfulness-based interventions* in *children*, research investigating the impact of these *interventions* in *children* is still in its infancy. One significant gap in the literature is the general omission of the *child's* voi... [Show more](#)

Subjects: Primary School Students; School Based Intervention; Student Attitudes; Mindfulness; +4 more

Appendix B

SALSA Stage 2: Appraisal of 22 selected studies

Appraisal was conducted in the order of Meta-Analyses/Systematic Reviews (10); MYRIAD Trial (1), Qualitative Studies (7), and Mixed Methods Studies (4)

Meta-Analyses and Systematic Reviews

This section systematically appraises each of the 10 selected meta-analyses/systematic reviews in order to determine their inclusion or exclusion in the next SALSA stage of Synthesis. Details supplied for included studies vary within the source analyses/reviews and this is reflected in the summaries below. While this appraisal documents the number of studies included in each meta-analysis, it was beyond the scope of this review to determine overlap and duplication within the 10 selected studies. Following appraisal, 5 studies were selected for progression to Stage 3 for Synthesis.

Table B1*Meta Analysis: Dunning et al. (2019)*

Title	Research Review: The Effects of Mindfulness-Based Interventions on Cognition and Mental Health in Children and Adolescents – A Meta-Analysis of Randomized Controlled Trials
Authors	Dunning et al. (2019)
Focus of study	To determine the efficacy of MBIs for improving cognitive, behavioural, and mental health outcomes in youth.
Location/s	The location of individual studies is not supplied in the table outlining details of studies, but the meta-analysis amassed findings from many international studies. The authors are based at the University of Cambridge and University of Oxford, UK.
Number of studies analysed	33
Total number of participants	3,666
Age-range of participants	4-18 years
Implementation setting/s	The majority of studies were conducted in education settings. This comprised diverse populations, from a majority in general education settings (24), to a lesser number with mental health disorders or specific risk factors in clinical settings
Research methods	All included MBIs utilised RCTs.

(Appendix B continued)

Contribution to the Research Field: The study focused exclusively on RCTs, considered the "gold standard" for research. Interpretation of findings were further enhanced by conducting a specific sub-analysis of 17 RCTs (1,762 participants) with active control conditions.\

Relevance and Justification for Inclusion: As part of inclusion criteria, this meta-analysis only included studies "in which the MBI is focused primarily on mindfulness practice that originated from an established programme, e.g., MBSR" and "MBIs delivered face-to-face over a series of sessions by trained mindfulness instructors" (Dunning et al., 2019, p. 246). While the studies within the analysis focused on a broad age-range of children and adolescents aged 18 years or younger, the table of details indicates that 14 studies were conducted with children aged 12 or under. Moderator analyses included an examination of the age of the participants to establish "whether MBIs are particularly

beneficial for younger children or older adolescents” (p. 247). In addition to moderated outcomes for age-related categories, the study is included for its methodological quality.

Table B2

Systematic Literature Review: Holt and Atkinson (2022)

Title	Exploring the Use and Delivery of School-Based Mindfulness Programmes for Young Children
Authors	Holt & Atkinson (2022)
Focus of study	An exploration of how school-based mindfulness programmes have been adapted for 3–9-year-olds, and how such programmes support young children.
Location/s	Included studies were conducted across three continents: North America (USA), Europe (UK, Italy, Portugal), and Asia (Singapore). The majority of studies were conducted in the USA.
Number of studies analysed	14
Total number of participants	While the paper does not provide a total number of participants across all 14 studies, sample sizes ranged from single cases to 223.
Age-range of participants	3 to 9 years. This included preschool (3–5 years); kindergarten (5–6 years); and lower primary school (7–9 years).
Implementation setting/s	10 studies in primary schools; 3 studies in preschools; and 1 study in kindergarten.
Research methods	Quantitative methods (13 studies) Qualitative methods (1 study)

Contribution to the Research Field: The study provided valuable insights into tailoring MBIs for younger children, with practical advice for the incorporation of age-appropriate approaches involving movement, sensory elements, and metaphorical language.

Relevance and Justification for Inclusion: The review aligns with the age-range and primary school context of this study and provides insights into young children’s unique needs. Its practical examination of programme adaptations and implementation methods directly supports a whole-school implementation perspective.

Table B3

Meta-Analysis: Kander et al. (2024)

Title	Mindfulness-Based Interventions for Preadolescent Children: A Comprehensive Meta-Analysis
Authors	Kander et al. (2024)
Focus of study	This meta-analysis explored how non-clinical preadolescent children (ages 6–12 years) benefit from mindfulness training.
Location/s	Studies spanned five continents, with studies conducted in the United States, Brazil, Canada, Germany, Hungary, Israel, Italy, New Zealand, Portugal, Spain, Thailand, and the United Kingdom. The majority of studies were in the U.S.
Number of studies analysed	32
Total number of participants	3,640
Age-range of participants	Preadolescent children aged 6-12 years.
Implementation setting/s	The majority of interventions were delivered within regular classroom settings or as extracurricular activities.
Research methods	All 32 studies employed quantitative methods.

Contribution to the Research Field: The study represents an age range previously underrepresented in mindfulness research with findings suggesting that benefits for preadolescents may operate through different mechanisms than in older individuals.

Relevance and Justification for Inclusion: Although all studies included in this review utilised quantitative research designs and excluded studies that employed qualitative methods, the review aligns with the target age-group and school context of this research and is included for its evidence of sustainable, school-embedded practices.

Table B4*Systematic Review: McKeering and Hwang (2019)*

Title	A Systematic Review of Mindfulness-Based School Interventions with Early Adolescents
Authors	McKeering & Hwang (2019)
Focus of study	To provide a synthesis of school-based MBIs with early adolescent students, evaluate existing research quality, and offer practical suggestions for implementing MBIs as a preventative programme towards greater well-being in early adolescence.
Location/s	USA (6); Australia (4); New Zealand (1); Canada (1); U.K. (1).
Number of studies analysed	13
Total number of participants	2,277
Age-range of participants	11 to 14 years
Implementation setting/s	Mainstream school settings
Research methods	7 studies employed quantitative designs (1,721 students) and 6 studies employed mixed-methods designs (556 students). Among the 6 mixed-methods studies, 4 had a stronger quantitative focus and 2 had a stronger qualitative focus.

Contribution to the Research Field: A key contribution of this review lies in its selection of mixed-methods studies on MBIs in a research field that predominantly employed quantitative methods.

Relevance and Justification for Inclusion: The study was deemed to be highly relevant due to its direct inclusion of qualitative data from both student and teacher experiences. As the age range overlaps with the upper end of primary school, insights gained on MBI implementation from the perspective of both students and teachers, are invaluable for refining methods of whole-school implementation.

Table B5*Systematic Review and Meta-Analysis: Pickerell et al. (2023)*

Title	The Effectiveness of School-Based Mindfulness and Cognitive Behavioural Programmes to Improve Emotional Regulation in 7–12-Year-Olds: A Systematic Review and Meta-Analysis
Authors	Pickerell et al. (2023)
Focus of study	Comparative evaluation of the effectiveness of school-based cognitive behavioural interventions (CBIs) and MBIs on emotion regulation outcomes in children.
Location/s	Included studies spanned 4 continents: North America, Asia, Europe and Oceania with the majority of studies conducted in the USA.
Number of studies analysed	18 MBI studies; 12 CBI studies
Total number of participants	MBI studies: (2,247 participants); CBI studies: (3,406 participants).
Age-range of participants	Pre-adolescent children aged 7-12 years
Implementation setting/s	All interventions were school based, delivered in a mainstream group setting by school staff or external practitioners.
Research methods	The study included quantitative studies only, specifically RCTs, quasi-RCTs, and NRCTs.

Contribution to the Research Field: While the study was a comparison of MBIs with CBIs, analysis of data from MBIs made a significant contribution to the evidence base in the areas of age-specific outcomes and optimal duration of MBIs with children.

Relevance and Justification for Inclusion This study is highly relevant for its inclusion of qualitative measures and focus on emotional awareness and emotion regulation with a primary school population.

Exclusion of Meta-Analyses / Systematic Reviews

Following a similar process of appraisal for research quality, contribution to the research field and relevance to this study, studies by the following authors: Burke, 2010; Felver et al., 2016; Rempel, 2012; Zenner et al., 2014; Zoogman et al., 2015; although widely cited within research, were excluded from the next stages of synthesis and analysis for reasons outlined below.

Burke (2010) included studies with children and adolescents ranging from 4-19 years. The review described included studies' methodologies as weak, with small samples

and most lacking randomization and control groups. As only four studies were school based, and some studies were not relevant to education, this review was excluded.

The review by Felver et al. (2016) was excluded due to its broad scope and lack of detailed age-specific analysis relevant to primary school children. While the review included 11 elementary-school studies, data were combined across primary and secondary levels without separate analysis or findings for each group, limiting relevance to the primary school population. Methodological weaknesses such as limited use of control groups and inconsistent randomization were acknowledged but only addressed descriptively.

The study of Rempel (2012) was excluded as an early narrative review, lacking the rigour of the selected meta-analyses and systematic reviews. While it generally discusses mindfulness for "children and youth" and mentions studies involving "elementary school students" and "adolescents in secondary school," it does not provide a systematic breakdown of the age focus of the studies it references or provide separate analysis for primary school-aged children. A lack of structured evaluation of study quality, limits its reliability for drawing conclusions about the effectiveness of MBIs.

The meta-analysis of Zenner et al. (2014) was excluded due to its limited specificity to primary-age children. With its findings based on heterogeneous study designs and no separate analysis for primary-age groups, its relevance to this review's focus is limited.

The research by Zoogman et al. (2014) included studies with a broad age range of 6-21 years, with the majority of interventions conducted among middle and high school students. Significantly, the authors acknowledged insufficient statistical power to analyse age-specific subgroups, limiting the applicability of their conclusions to primary-aged children.

Table B6*MYRIAD Trial: Kuyken et al. (2022)*

Title	MYRIAD Cluster Randomised Controlled Trial
Authors	Kuyken et al. (2022)
Focus of study	The MYRIAD trial was a large-scale evaluation of school-based mindfulness training (SBMT). The study aimed to determine the effectiveness and cost-effectiveness of universal SBMT compared to teaching-as-usual (TAU) in reducing the risk of mental health problems and promoting well-being in adolescents. Co-primary outcomes included self-reported risk for depression, social-emotional-behavioural functioning, and well-being at 1-year follow-up.
Location	UK
Total number of schools	84
Total number of participants	8,376 students: 4,232 in TAU (control); 4,144 in SBMT (intervention).
Age-range of participants	11-14 years
Implementation setting/s	Mainstream secondary schools across the UK
Research methods	Quantitative methodological approach

Contribution to Research Field: This study is the largest and most rigorously designed evaluation of school-based mindfulness training (SBMT) to date. It provided robust findings of MBIs with young adolescents, with a one-year follow-up measure.

Relevance and Justification for Inclusion: The MYRIAD trial is included in this literature review due to its methodologically robust investigation of school-based MBIs. The scale and methodological rigour of the MYRIAD trial offer insights into age-related receptiveness to MBIs in schools, making it a valuable reference for all whole-school mindfulness approaches.

Qualitative Research Studies

This section methodically evaluates the seven qualitative selected studies (D'Alessandro et al., 2022; Bannirchelvam et al., 2017; Duff, 2024; Holt et al., 2022; Hutchinson et al., 2018; Kempf et al., 2024; Piotrowski et al., 2017); to determine potential inclusion in the third SALSA stage of Synthesis. Following appraisal, all seven studies were selected for progression to the next stage.

Table B7

Listen to the Children: D'Alessandro et al. (2022)

Title	Listen to the Children: Elementary School Students' Perspectives on a Mindfulness Intervention
Authors	D'Alessandro et al. (2022)
Focus of study	This qualitative study aimed to address a gap in the literature by exploring elementary school students' opinions and perceptions regarding the implementation of an 8-week classroom-based mindfulness programme, thereby including a "considerably significant voice" often omitted in research.
Location	Canada
Total number of schools	1
Total number of participants	51 elementary school students with their classroom teachers
Participant details	The student participants were from a 6th-grade classroom ($n=18$) and 2 8th-grade classrooms (8A: $n=18$, 8B: $n=15$). Their ages ranged from 11 to 14 years with 55% female and 45% male. 3 classroom teachers participated.
Implementation setting/s	Elementary school classroom
Research methods	This study employed a qualitative design, focusing on the opinions and perceptions of 51 elementary 6 th and 8 th grade students participating in the 8-week classroom based mindfulness programme "MindfulMe." Data were collected through semi-structured focus group interviews conducted on four occasions during the intervention. Thematic analysis, guided by Braun and Clarke's framework (2006), was used to analyse the transcribed data.

Contribution to Research Field: This study addresses a gap in the literature by foregrounding children's first-hand personal experiences of an 8-week mindfulness intervention. Analysis of the qualitative data offers invaluable insights into the attitudes and preferences of the children, along with the challenges they encounter.

Relevance and Justification for Inclusion: Although the sample size is small, this study is relevant to research on a whole-school approach to mindfulness in a primary

school setting. As findings highlight that children who do not enjoy mindfulness activities are more likely to disengage, insights into more flexible and engaging methods of delivery, balancing education and entertainment are of enormous value for improving future programmes.

Table B8

A Qualitative Exploration of Primary School Students' Experience and Utilisation of Mindfulness: Bannirchelvam et al. (2017)

Title	A Qualitative Exploration of Primary School Students' Experience and Utilisation of Mindfulness
Authors	Bannirchelvam et al. (2017)
Focus of study	The purpose of this study was to understand how young children perceive, benefit from and use mindfulness techniques, addressing a gap in existing literature that often omits the perspective of the child.
Location	Melbourne, Australia
Total number of schools	1
Total number of participants	8
Participant details	4 girls and 4 boys aged 7 to 11 years. Due to poor coping strategies, potential difficulties transitioning to secondary school and perceived levels of anxiety, these students were nominated for participation by their teachers. None had a diagnosis of a psychological disorder.
Implementation setting/s	The MBI was conducted at the children's school during normal school hours.
Research methods	Qualitative methods, utilising semi-structured interviews with 8 primary school students following participation in an 8-week MBI

Contribution to Research Field: Although sample size is small, this study provides first-hand accounts of young students' perceptions, utilisation of and perceived benefits from classroom MBIs. As the participants were intentionally selected for participation by teachers due to poor coping strategies and perceived levels of anxiety, the study addresses a gap in existing literature that mainly focuses on MBIs in mainstream education with a general population.

Relevance and Justification for Inclusion: Despite its very small sample, this study bears relevance to a qual-dominant study on whole-school mindfulness in a primary setting. Its sole use of qualitative data drawn directly from the voices of purposefully selected children offers valuable insights for refining the design of more inclusive classroom-based MBIs.

Table B9

The Implementation of Mindfulness in Early Childhood: Duff, (2024)

Title	The Implementation of Mindfulness in Early Childhood: Diversity in the Uses and Functions of Mindfulness and What This May Mean for Children’s Well-being
Authors	Duff, (2024)
Focus of study	This qualitative study aimed to understand the diverse uses and functions of mindfulness practices in early childhood within both clinical and educational contexts. It specifically sought to capture children’s perspectives alongside adult practitioners’ views.
Location	Primary schools in New York, San Francisco, Boston, and Texas, and a clinical centre for mindfulness in San Diego, USA
Total number of schools/clinics	4 primary schools 1 clinical centre
Total number of participants	24 children; 8 primary school staff; 6 clinicians
Participant details	24 children aged 4-5 years participating in mindfulness at primary school for at least 6 months; 8 primary school staff which included 6 teachers, a school counsellor and a music therapist, all with at least 6 months of mindfulness implementation experience in schools; 6 clinicians comprising psychologists, paediatric doctors, and psychiatrists, all implementing mindfulness with children in clinical settings for at least 6 months.
Implementation setting/s	MBIs were implemented in primary school settings and clinical centres.
Research methods	The study employed a qualitative descriptive design, using semi-structured interviews with all participants. Children were grouped into 4 focus groups of 6 children each.

Contribution to the Research Field: The study contributes significantly by addressing the dearth of qualitative research on early childhood MBI implementation. A major contribution lies in its inclusion of young children's voices in early childhood MBIs, helping to address a notable gap in mindfulness literature for this age-group.

Relevance and Justification for Inclusion: This study is highly relevant for inclusion in this literature review. Its qualitative focus on the voices of very young children and classroom teachers aligns with a qual-dominant whole-school mindfulness study in a primary school setting. As such, it makes a significant contribution to understanding how MBIs with very young children can be integrated into a whole-school approach.

Table B10

Exploring the Implementation of Mindfulness Approaches in Early Years Setting: Holt et al., (2022)

Title	Exploring the Implementation of Mindfulness Approaches in an Early Years Setting
Authors	Holt et al. (2022)
Focus of study	This action research project aimed to explore how Early Years (EYs) practitioners can effectively deliver mindfulness approaches within an EYs setting, exploring their perceptions of the impact of an MBI and challenges to successful implementation.
Location	Northwest England, UK
Total number of schools	1
Total number of participants	57
Participant details	52 children (19 Nursery, 33 Reception) and 5 EYs practitioners with prior whole-school mindfulness training - 1 Nursery teacher, 1 Reception teacher, and 3 Teaching Assistants. The school population was predominantly of Asian heritage, speaking English as an Additional Language (EAL), with communication and language skills significantly lower than typical, and an above-average proportion of disadvantaged pupils.
Implementation setting	An urban primary school in Northwest England, within its Nursery (Ages 3-4) and Reception (Ages 4-5) classes. Mindfulness practice was embedded as a daily approach within the EYs classroom setting, specifically delivered twice daily in whole-class activities.
Research methods	The study employed a year-long qualitative action research methodology, informed by the Research and Development in Organisations (RADIO) model, a framework for guiding action research within organizations, particularly in educational settings, to enable evaluation, reflection, and change in professional practice.

Contribution to the Research Field: The study makes a noteworthy contribution by identifying both enabling factors and challenges in implementing mindfulness in an EYs setting. A key contribution lies in its capture of rich practitioner and child perceptions of mindfulness in a real-world setting, addressing a gap in EYs mindfulness research.

Relevance and Justification for Inclusion: This research is particularly relevant for inclusion in a study of a whole-school approach to mindfulness in primary education. By exploring the incorporation of mindfulness as a daily, embedded practice within an EYs supportive community, the study offers crucial insights into how MBIs for very young children can be meaningfully incorporated into the development of a whole-school programme.

Table B11

Exploring Experiences of Childhood in Applying a School-Based Mindfulness Programme to their Lives: Hutchinson et al. (2018)

Title	Exploring Experiences of Children in Applying a School-Based Mindfulness Programme to their Lives
Authors	Hutchinson et al. (2018)
Focus of study	This qualitative study aimed to explore how primary school children experienced and applied long-term, school-based mindfulness training to their everyday lives, with specific emphasis on the management of challenges.
Location	Northwest Wales, UK
Total number of schools	1
Total number of participants	15
Participant details	15 Year 6 children aged 10-11 years (3 male; 12 female). These children had received long-term mindfulness training, having been introduced to the programme in Year 4, and continuing practice through Year 6.
Implementation setting	A co-educational state primary school. The MBI was embedded within the school curriculum, as a spiral programme within the Personal, Social and Health Education (PSHE) curriculum, and further offered through an extra-curricular mindfulness club.
Research methods	This qualitative study employed a qualitative descriptive design with semi-structured focus groups of children in a primary school setting.

Contribution to the Research Field: The study addresses a significant gap in the research field by directly exploring how children experience and apply mindfulness in their lives over an extended period. The study offers detailed and authentic insights into students' real-world application of mindfulness, highlighting challenges, the importance of a nurturing environment and the inclusion of adaptable, movement activities to support practice.

Relevance and Justification for Inclusion: Despite the small sample size, this study is extremely relevant in its examination of how children experience and apply mindfulness in their lives and in its alignment with a study that also embeds an MBI into the curriculum as part of the Social and Personal Health Education (SPHE) programme.

Table B12

“You Feel a Lot of Different Emotions:” Kempf et al. (2024)

Title	“You Feel a Lot of Different Emotions:” Examining a Mindfulness-Based Group for Elementary School Students
Authors	Kempf et al. (2024)
Focus of study	The study aimed to fill a gap in the literature regarding school counsellor-led mindfulness-based interventions (MBIs) at elementary level by examining the experiences of elementary school students participating in an MBI within a school counselling group setting.
Location	The location of the study is not detailed beyond the affiliation of the authors at Villanova University, Pennsylvania, USA.
Total number of schools	1
Total number of participants	16
Participant details	Participants were fifth-grade students, 10 females and 6 males aged 10-11 years, randomly divided into 3 groups with 5 to 6 students in each. 10 participants had no prior mindfulness instruction, while 6 had some.
Implementation setting	The MBI was facilitated within a small counselling group that met during students' lunch or "specials" periods.
Research methods	The study employed qualitative descriptive research methods to examine the experiences of elementary school students participating in an MBI utilising the "Still Quiet Place" curriculum, within 3 small counselling groups.

Contribution to the Research Field: This study elevates children's voices and highlights their lived experiences of mindfulness. Since children's written and verbal communication abilities differ from those of adults, a "draw, write, and tell" approach was employed to give children a variety of ways to express their thoughts and ideas.

Relevance and Justification for Inclusion: Although the sample size is small, the study aligns with the current study through its focus on the experiences of elementary school children as they engage with an MBI. While the programme was situated in counselling groups, the findings have broader relevance across school settings and support an integrated and inclusive approach to mindfulness in primary education.

Table B13

Primary Teachers' Perceptions of Mindfulness Practices with Young Children: Piotrowski et al. (2017)

Title	Primary Teachers' Perceptions of Mindfulness Practices With Young Children
Authors	Piotrowski et al. (2017)
Focus of study	The overall aim of this study was to address the rise of stress and anxiety in children and foster wellbeing in the classroom. It explored primary teachers' perceptions of implementing mindfulness practices with young children in their classrooms, identifying benefits, challenges and motivating factors.
Location	Canada.
Total number of schools	1
Total number of participants	4
Participant details	The study involved 4 primary teachers (3 female; 1 male) who worked with children in Kindergarten to Grade 3 classrooms. Specific numbers of participating children are not provided. One teacher mentioned having "27 students in the morning and 27 students in the afternoon", and another "a large class of 28 children" (p. 229). All 4 teachers had prior experience of facilitating mindfulness practices with Kindergarten to Year 3 students.
Implementation setting	Primary school classroom-based intervention. Mindfulness practices were integrated into daily classroom routines and in activities throughout the day.
Research methods	A qualitative descriptive research design was employed utilising both open-ended and semi-structured interviews with the four participating teachers.

Contribution to the Research Field: The study significantly contributes to the research field in its documentation of primary teachers' first-hand accounts of the challenges associated with the implementation of mindfulness in classroom settings.

Relevance and Justification for Inclusion: This study is highly relevant through the richness of the insights provided by the participating teachers who offer valuable guidance for designing sustainable MBIs within a whole-school framework.

Mixed-Methods Studies

This section evaluates 4 mixed-methods studies of MBIs in primary education. Following appraisal, all four studies were progressed to the next stage of Synthesis.

Study Appraisal B14

Title	Perceptions and Traits of 4th-graders in a School-Based Mindfulness Intervention
Authors	Keller et al. (2017)
Focus of study	To explore 4 th -grade students' attitudes toward mindfulness and its integration in the school, identifying traits of both receptive and resistant children.
Location	Southwest USA
Total number of schools	1
Total number of participants	29
Participant details	28 Grade 4 students (Ages 9 -10). The experimental group consisted of 15 students, and the control group had 13 students. The classroom teacher was also a key participant. Students were primarily from low-income and ethnic minority backgrounds (89% Hispanic, 11% Black).
Implementation setting	Urban public school. Classroom- based intervention with 10 minutes of mindfulness activities taking place at the beginning of a 90 minute literacy class
Research methods	Mixed Methods

Contribution to Research Field: This study was one of the first to examine children's attitudes to mindfulness. With its mixed-methods approach, it captures emotions and motivations linked to traits of openness or resistance, through children's drawings and journal entries, and offers strategies to support resistant learners. Its focus on low-income students gives a voice to minority groups often overlooked in research.

Relevance and Justification for Inclusion: With its insights into student resistance and suggestions for the adaptation of delivery methods, this study helps inform the development of an inclusive whole-school mindfulness model.

Table B15

Cultivating Mindfulness with Third Grade Students: Kielty et al. (2017)

Title	Cultivating Mindfulness with Third Grade Students via Classroom-Based Interventions
Authors	Kielty et al. (2017)
Focus of study	This mixed-methods study on the cultivation of mindfulness with third-grade students, focused exclusively on classroom-based interventions. The researchers hypothesized that mindfulness scores would increase and that qualitative comments from students and teachers would be positive.
Location	Virginia, USA
Total number of schools	1
Total number of participants	51
Participant details	The initial intervention involved 45 Grade 3 students (22 boys, 22 girls, 1 unidentified) from 6 classrooms along with their 6 teachers.
Implementation setting	A rural elementary school. The MBI was delivered by licenced mental health professionals in the classroom as part of the school's guidance programme.
Research methods	A three-year longitudinal mixed-methods study.

Contribution to Research Field: The finding of discrepancy between the positive qualitative feedback from students and teachers, and the unexpected decrease in student self-reported mindfulness scores (MSQ) makes a significant contribution to literature by challenging conventional mindfulness measurement tools for children.

Relevance and Justification for Inclusion: This study is highly significant in a literature review on a whole-school approach to implementing MBIs in schools, emphasising teacher involvement and collaboration with all stakeholders for sustainability.

Table B16

Preliminary Investigation of Whole-School Mindfulness in Education Programs: Sheinman et al. (2018)

<i>Title</i>	Preliminary Investigation of Whole-School Mindfulness in Education Programs and Children’s Mindfulness-Based Coping Strategies
Authors	Sheinman et al. (2018)
Focus of study	To determine if sustained whole-school mindfulness integration influences students’ inclination to apply mindfulness-based coping strategies in daily life.
Location	Israel
Total number of schools	3
Total number of participants	646
Participant details	646 students in 3rd–6th grades (Ages 9 –12). This included 218 students from School A (13 years of mindfulness implementation), 212 from School B (1 year of mindfulness implementation), and 216 from School C (comparison group with no experience of mindfulness). Participants were from medium to high socio-economic backgrounds.
Implementation setting	Three Hebrew-speaking urban public schools in central Israel. School-based with weekly sessions taught to entire classes by experienced instructors in a dedicated mindfulness room.
Research methods	A comparative, cross-sectional study across three schools with varying durations of Whole-School Mindfulness in Education (WSMED) implementation (13 years, 1 year, 0 years). Despite using one school as a control group, the study was a preliminary investigation, not a randomized controlled trial.

Contribution to Research Field: This study was among the first to investigate a whole-school MBI. A distinctive feature of this study was its use of qualitative thematic coding of students’ open-ended responses, quantified to assess mindfulness-based coping, providing a behavioural measure beyond self-reports. Additionally, the study identified meaningful age- and gender-related variations in engagement among children.

Relevance and Justification for Inclusion: This study is particularly relevant due to its direct investigation of long-term Whole-School Mindfulness in Education (WSMED). The study finds that extended engagement with WSMED improves students’ use of coping strategies, providing evidence for the long-term benefits of a whole-school model.

Table B17*Implementation of a Whole-School Mindfulness Curriculum: Ventura et al. (2023)*

Title	Implementation of a Whole-School Mindfulness Curriculum in an Urban Elementary School: Tier 1 through Tier 3
Authors	Ventura et al. (2023)
Focus of study	This concurrent mixed-methods study investigated the feasibility, implementation, effectiveness, and sustainability of a whole-school mindfulness curriculum, MindUp, in an urban elementary school, uniquely examining its application with both general education (Tier 1) and emotional behavioural disorder (EBD) (Tier 3) student populations.
Location	Florida, USA
Total number of schools	1
Total number of participants	491
Participant details	The study included 55 staff (35 teachers, 20 paraprofessionals/administrators) and 436 students from kindergarten through 5th grade. 47 students were from the self-contained EBD "Pride" programme. All staff participated voluntarily. The school served students from varied backgrounds, with 42% at low-income level, and a diverse racial/ethnic composition (46% White, 24% African American, 17% Hispanic, 13% Other).
Implementation setting	An urban elementary school in Northeast Florida, USA. As a whole-school approach, mindfulness practices were integrated into daily classroom routines and specific lessons throughout the school day.
Research methods	This investigation utilised a concurrent mixed-methods approach, collecting qualitative and quantitative data simultaneously with equal weight.

Contribution to the Research Field: This study examines whole-school mindfulness implementation in a socioeconomically challenged urban context. It is unique in its inclusion of both mainstream students (Tier 1) and those receiving targeted support for EBD (Tier 3). It demonstrates that an adapted mindfulness curriculum is potentially impactful and provides valuable insights into adaptations for implementation success.

Relevance and Justification for Inclusion: With a mixed-methods alignment, this study is highly significant for inclusion in this literature review. The provision of both qualitative insights into participant experiences and quantitative outcomes from a diverse school population are invaluable towards developing a practical whole-school model.

Appendix C

Approval for research study from DCU Research Ethics Committee (REC)

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University



Ms Mary Glynn
Dr Catherine Maunsell

28th June 2017

REC Reference: DCUREC/2017/109
Proposal Title: An Investigation into the Process and Outcomes of Developing a Mindful School Community
Applicant(s): Ms Mary Glynn, Dr Catherine Maunsell

Dear Mary,

Further to expedited review, the DCU Research Ethics Committee approves this research proposal.

Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee.

Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

A handwritten signature in blue ink that reads 'Dónal O'Gorman'.

Dr Dónal O'Gorman
Chairperson
DCU Research Ethics Committee





Taighde & Nuálaíocht Tacaíocht
Ollscoil Chathair Bhaile Átha Cliath,
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Appendix D

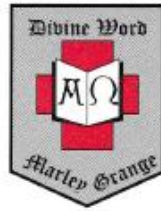
Permission for research from school principal

<p>S. N. An Bhriathair Dhíaga, Gráinseach Mharlaí, Áth Cliath 16. Teileafón: 01-494 5955 Fax: 01-493 7849 Email: divinewordschool@gmail.com Seán Mac Liam Príomh-Oide</p>		<p>Divine Word National School, Marley Grange, Dublin 16. Telephone: 01-494 5955 Fax: 01-493 7849 www.divinewords.ie John Williams Principal</p>
<p>The Secretary Dublin City University Research Ethics Committee DCU Dublin 9</p>		
<p>4 May, 2017</p>		
<p>Dear Secretary</p>		
<p>I wish to confirm that I have given my permission (pending approval by Board of Management on May 18th, 2017) for the mindfulness research project 'Investigating the Process and Outcomes of Building a Mindful School Community' to be conducted in Divine Word N.S., Marley Grange, Rathfarnham, Dublin 16.</p>		
<p>Over a period of 18 months, commencing in September /October 2017, every class at the school will receive a 6 - 8 week age-appropriate mindfulness course delivered in their classroom by the researcher, Mary Glynn. These courses will be delivered to children as part of the school's Social, Personal and Health Education (SPHE) curriculum and as such, all children will be expected to participate. Children will then be given the added option of participating in the research element of the course – this will be dependent on parental consent. I have seen and approved the Plain Language Statements and Informed Consent forms to be sent to parents and children.</p>		
<p>To support children through these courses, the following protocol has been agreed:</p>		
<ul style="list-style-type: none">• Teachers will remain in the classrooms during the children's programme• Children with special needs will be accompanied by their SNAs• In case of any disclosure, as designated liaison person responsible for child protection concerns, I will be available for support• Parents will be informed weekly via a purpose-built mindfulness blog, how best to support children's practice at home		
<p>We look forward to participating in this collaborative initiative with the DCU Institute of Education.</p>		
<p>With regards</p>		
 <p>John Williams Principal</p>		

Appendix E

Permission for research from school Board of Management

S. N. An Bhriathair Dhiaga,
Gráinseach Mharlai,
Áth Cliath 16.
Teileafón: 01-494 5955
Fax: 01-493 7849
Email: divinewordschool@gmail.com
Séan Mac Liam
Príomh-Oide



Divine Word National School,
Marley Grange,
Dublin 16.
Telephone: 01-494 5955
Fax: 01-493 7849
www.divinewordns.ie
John Williams
Principal

16th May 2017

Ms Mary Glynn
School of STEM Education Innovation and Global Studies
Dublin City University Institute of Education
DCU St Patrick's Campus
Drumcondra
Dublin 9

Dear Ms Glynn

Mary

I refer to your letter dated May 15th 2017 seeking permission from the Board for a PhD Research Study to take place in the Divine Word School.

The Board of Management is pleased to approve this initiative and gives its permission for the project to take place.

Yours sincerely

Prof D. Keogh
Chairperson, B.O.M.

Appendix F

Samples of Plain Language Statement

Dear Parents,

I am currently embarking on a research study at the DCU Institute of Education, Drumcondra, (formerly St. Patrick's College of Education) investigating the outcomes of developing a mindful school. Following discussions with the Principal of Divine Word N.S., Mr. John Williams and with the Board of Management, it has been agreed to introduce mindfulness training to all children in the school as part of the school's SPHE curriculum.

Project Design:

Over a period of 2 years, commencing in September 2017, every class at the school will receive an 8 week mindfulness course delivered in their classroom by the researcher. The core, age-appropriate programmes to be used have been designed, piloted, researched and evaluated for mainstream education by the Mindfulness in Schools Project, UK <http://mindfulnessinschools.org> and the Infant programme by the US based Mindful Schools Organisation <http://mindfulschools.org>

Informed consent:

The course for your child's class will commence shortly on _____(insert date). As the course will be delivered as part of the SPHE curriculum, all children will participate in the class activities. Children then have the option of taking part in the research element of the study by taking part in a whole class exit group interview and allowing weekly worksheets to be gathered as data. Participation in the research is voluntary and a child may withdraw from the research at any time. A plain language statement for your child is attached to this document. Please read it with your child and if he/she agrees to participate in the research, please sign the form and return it to the class teacher in the envelope provided.

Risks:

There are no anticipated risks to children through participation in this study.

Benefits:

In a recent meta-analysis of 21 studies of mindfulness with children and adolescents, Katherine Weare finds that well-conducted mindfulness interventions can improve well-being, sleep, self-esteem, calmness, relaxation, self-regulation, and aspects of cognitive function and physical health. In addition, they can reduce worries, anxiety, distress, reactivity and bad behaviour (Weare, 2013).¹

Privacy:

Children's privacy will be protected by using code names and numbers for all data collection thereby ensuring anonymity. No child will be identifiable as a participant in this research study - any information provided will be anonymous and children's names will not be provided as part of any reporting. Data gathered are however subject to legal limitations. Data will be disposed of when the project ends.

Background of researcher

Following a career rooted in primary education, both in and outside the classroom, I am currently employed as a lecturer in education at the DCU Institute of Education, Drumcondra. Having a life-long interest in the benefits of meditation, I have trained extensively in the teaching of Mindfulness with the Centre for Mindfulness, University of Massachusetts Medical School; the UK based Mindfulness in Schools Project and with the US based Mindful Schools organization.

If participants have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. (e-mail rec@dcu.ie)

You may also contact me at mary.glynn@dcu.ie

I look forward to working with your child.

With kind regards

Mary Glynn

¹ Weare, K. (2013). Developing mindfulness with children and young people: a review of the evidence and policy context. *Journal of Children's Services* 8(2), 141-153.

Appendix 2:

Plain Language Statement

for children in Infants and 1st class completing Mindful Educator Essentials programme

<http://www.mindfulschools.org/training/mindful-educator-essentials/>

Dear Student

I am learning about something called mindfulness to see if it can help children to do better in school and help them to be able to calm themselves whenever they feel unhappy and upset. I will be teaching mindfulness to all children at Divine Word N.S. in their classrooms during this year and showing children lots of ways of being calm and happy.

I need to collect a lot of information about mindfulness to understand how it works best for children, and I would like to invite you to help me to gather this information. Gathering the information and studying it is called research.

If you would like to help me with the research, I will ask you to do 2 things:

- take part in a classroom chat about mindfulness at the end of the classes where I will be asking questions about the programme to the whole class together. (This will be recorded with an audio recorder so that I can listen to and write down the answers later)
- allow your mindfulness worksheets in which you will draw lots of mindfulness pictures and write mindfulness stories to be collected at the end of the course and used to gather more information

If you decide to do these 2 things, everything you say when answering your questions or doing your mindfulness homework will be very private. Instead of using your real name, I will be giving you a code name and number so nobody will know what you wrote. All information gathered will be anonymous – this means that your name will not be used in any way when I am writing an account of the project after it finishes. The only time I might have to tell another trusted adult about what a child has said is if someone's personal safety was at risk.

You don't have to help me to gather the information and even if you decide to do this, you can change your mind at any time.

If you decide to be involved in the research, please ask your parent to fill in the form on the next page. Both you and your parent must sign it to allow you to take part

I hope you will enjoy your mindfulness course. It will be lots of fun.

With kind regards

Mary Glynn

Plain Language Statement

for children in 6th class completing .b programme
<https://mindfulnessinschools.org/what-is-b/b-curriculum/>

Dear Student

I am currently studying a technique called mindfulness and how it can be of benefit to children. Some people who have studied mindfulness with children say that it can help children to focus better, pay greater attention, think more clearly, help you to deal with stress and befriend difficult emotions such as sadness, anger, loneliness, fear, etc.

To allow me to study the effects of mindfulness, I will be giving mindfulness courses to all children at Divine Word N.S. in their classrooms as part of their SPHE programme, during this year. I will be starting the mindfulness course with your class very soon on (insert date)

The course that will be delivered to 6th class is called .b and you might like to read about it online at <https://mindfulnessinschools.org/what-is-b/b-curriculum/>

I need to collect a lot of information about mindfulness to understand how it works best for children and I would like to invite you to help me to gather this information. Gathering the information and studying it is called research. The information that will be collected is called data.

If you would like to take part in the research, there are 3 requirements:

- complete 1 short questionnaire before the programme begins and after the programme ends
- take part in a whole class discussion and group interview at the end of the course where I will be asking questions about the programme to the whole class together. This will be recorded with an audio recorder so that I can listen to and write down the answers later. You don't need to speak unless you wish to do so.
- allow your mindfulness worksheets in which you will complete activities, to be collected at the end of the course and studied as data

If you decide to take part in the research, your privacy will be protected at all times. Your class will be assigned a code name and you will be assigned a number to go with that code name. You will use that code name and number for your questionnaires and on your journal. You will not be identifiable as a participant in this research study - any information provided will be anonymous and your name will not be provided as part of any reporting. If you are involved in a whole group discussion, others in the group will know what you have said, however your name still won't be used in any report or publication. Information gathered is however subject to legal limitations – this means that if a child's personal safety was at risk, I would have to disclose information to another trusted adult.

Data will be disposed of when the project ends but your journal will be returned to you.

Participating in the research is entirely voluntary and even if you decide to participate, you can change your mind and withdraw from the research part of the programme at any time.

If you would like to be involved in the research, please complete the form on the next page. Both you and your parent/guardian must sign to give consent.

I hope you will enjoy your mindfulness course.
I am looking forward to working with you.

With kind regards
Mary Glynn

PDF

Appendix G

Sample Exit Interview Questions for whole class groups: (1st to 6th classes)

(Recorded by audio)

1	How would you explain mindfulness to a friend?
1	Did you enjoy the mindfulness course?
2	Why did you enjoy / not enjoy the course?
3	Was the course helpful / not helpful? In what way?
4	Did you learn anything from the course?
5	Do you practice mindfulness away from the classroom?
	Do you practise mindfulness with your family?
	Do you practise mindfulness with your friends??
6	Describe any time when you practised mindfulness?
7	What was your favourite mindfulness exercise? Why?
8	What was your least favourite mindfulness exercise? Why?
9	What do you do when you get angry? sad? upset?
10	Will you continue to keep up mindfulness practice now that the course has finished? Why? Why not?

Appendix H

Exit Interview Questions for Adult Participants (Written)

1	Did you engage with any formal mindfulness practice during the course? Yes/No. If yes, on how many days did you practise?
2	If you engaged in formal practice, describe the practice and, on average, how long was this practice?
3	Did you use the blog on the school website to support formal practice Yes/No. If yes, describe how you used the blog.
4	Did you engage in any informal mindfulness practice? Yes/No. If yes, describe these informal practices.
5	Was this mindfulness course helpful/unhelpful to you in your personal life? Describe how it has been helpful/unhelpful.
6	If any, what was your most significant learning on the course?
7	Will you keep up mindfulness practice now that the course has finished? Yes/No. Why?/Why not?

Appendix I

Curriculum for .b (Ages 11-18) Mindfulness in Schools Project (MiSP) UK

An Introduction to Mindfulness

- An introductory lesson persuades young people that mindfulness is worth learning about by making it relevant to their lives.

Lesson One – Playing Attention

- Introduces students to this thing we call our “attention” which, like a puppy, needs to be trained.

Lesson Two – Taming the Animal Mind

- Explores different mind states and teaches that ‘anchoring’ attention in the body, alongside the cultivation of curiosity and kindness, can be calming and nourishing.

Lesson Three –Recognising Worry

- Explains the tricks our mind plays that lead to stress and anxiety and gives us techniques to deal with them.

Lesson Four –Being Here Now

- Comes to the heart of mindfulness and teaches us how to respond, rather than react, to whatever happens in our lives.

Lesson Five –Moving Mindfully

- Shows us that mindfulness is not just something we do sitting or lying down. It also looks at high performance in sport.

Lesson Six –Stepping Back

- Offers us a new way of relating to our thoughts. We don’t have to let them carry us away to places we’d rather not be.

Lesson Seven –Befriending the Difficult

- Deals with the greatest challenge of all: dealing with difficult emotions.

Lesson Eight –Taking in the Good

- Focuses on gratitude and the ‘heartfulness’ of taking in & savouring what is ‘good’ in life.

Lesson Nine –Pulling it all Together

- Consolidates the key techniques from .b and inspires students to use what they have learned in the future.

Appendix J

Mindfulness in Schools Project (MiSP) UK

Paws b curriculum for children aged 7-11 years

<https://mindfulnessinschools.org/teach-paws-b/paws-b-curriculum/>

Paws b [pause be] is a leading mindfulness curriculum for children aged 7 -11 in schools and was initially developed in collaboration with experienced primary school teachers at Pen y Bryn school and senior mindfulness teachers and researchers at the Centre for Mindfulness Research and Practice at Bangor University in Wales.

Lesson One – Our Amazing Brain

- Exploring how mindfulness can help us to train our minds to change our brain.
- Introducing 4 key areas of the brain, beginning with the Prefrontal Cortex

Lesson Two – Making Choices

- Learning how mindfulness can help us to concentrate when we need to
- Recognising the choices we make each day and the impact these have on our lives

Lesson Three – Puppy Training

- Exploring how the attention can move around, narrow down or broaden out in focus.
- Learning about how the attention is also like a puppy, but can be trained with an attitude of kindness, patience and repetition

Lesson Four – Everyday Mindfulness

- Understanding what it means to be on ‘autopilot’
- Learning about the role of the hippocampus and how it links new experiences to old ones

Lesson Five – Noticing The Wobble

- Recognising that we all ‘wobble’, and explore ways to steady ourselves
- Learning about the Insula’s role in recognising different body states in ourselves and others and how they relate to mood

Lesson Six – Finding A Steady Place

- Exploring practices that steady our attention in the lower half of the body
- Learning to recognise moods in ourselves and others

Lesson Seven – Working With Difficulty

- Exploring the idea of reactivity – what looks and feels like
- Learning about the amygdala and its role in ‘fight, flight or freeze’

Lesson Eight – Choosing Your Path

- Learning how to nurture attitudes of curiosity, kindness, and openness to experiences
- Understanding the importance of keeping the mind and body safe and healthy through noticing choice points, and choosing to respond where appropriate

Lesson Nine – The Storytelling Mind

- Discussing what a thought is, and learning to recognise them as they arise
- Noticing some of the habits of our mind – e.g. ways the mind tries to fix difficulties by over-thinking

Lesson Ten – Stepping Back

- Learning about how thoughts can be connected to body, emotions and urges/actions
- Exploring ways to step back and be present moment-focused when the mind is telling us stories

Lesson Eleven – Growing Happiness

- Discussing how we can best nurture ourselves and others
- Understanding how we can sometimes create space and choices around happiness

Lesson Twelve – The Yum Factor

- Exploring specific ways to savour happiness
- Learning about how happiness, kindness and gratitude are connected

Appendix K

Programme for Infants to 1st classes

Mindful Schools

Curriculum Content adapted to only include lessons suited to Infants and 1st class
Supplementary activities added to compliment lessons and consolidate learning
<http://www.mindfulschools.org>

Lesson 1: Introduction

Understanding Mind full or Mindful
Paying attention with the senses of seeing and listening
Listening to the mindfulness bell

Supplementary Activities:

Noticing what is around you (classroom and outside)
Rainbow Walk – noticing colours

Lesson 2; Body Awareness and Emotions

Tuning in to the body: Show me – tell me

Supplementary Activities:

Identifying your internal weather
Calming Glitter Bottle – watch it settle
Story: The Magic Moment by Niall Breslin
Melt it Away Activity:

<https://app.gonoodle.com/activities/melting?s=category&t=Manage%20Stress>

Lesson 3: Mindful Breathing

Tuning in to the breath

Supplementary activities:

Finger breathing
Petal breathing

Bee breathing: <https://app.gonoodle.com/activities/bunny-breath?s=category&t=Manage%20Stress>

Bunny breathing: <https://app.gonoodle.com/activities/bunny-breath?s=category&t=Manage%20Stress>

Lesson 4: Thoughts

Identifying happy and sad thoughts
Understanding worry
Breathing to calm your worries

Supplementary Activities:

Story: The Worry Box by Suzanne Chiew; Sean Julian
Creating a Worry Box: Feeding your worries to the worry box

Lesson 5: Sending Kind Thoughts to Yourself and Others

Understanding kindness
How to practise kindness and be a good friend

Supplementary Activities:

Story: Be Kind by Zietlow Miller and Jen Hill
Discussion following story

Lesson 6: Kind and Caring on the Playground

Discussing playground scenarios
Supplementary Activities:
Story: I Walk with Vanessa by Kerascoet
Discussion following story

Final lesson: Class Group Exit Discussion (recorded)

Appendix L

Mindfulness in Schools Project MiSP

.b Foundations

Programme for teachers school staff and parents

Curriculum Content
<p>Taster session: An Introduction to Mindfulness</p> <p>Lesson 1: Waking up to Autopilot: Mindfulness starts when we recognise the human tendency to operate on autopilot and begin to learn how best to step out of it.</p> <p>Lesson 2: Bringing Curiosity to Our Experience: Building a capacity for sustained mindful concentration and awareness.</p> <p>Lesson 3: Mindfulness in Daily Life: Deliberately practising being present in the midst of activity – keeping connected with the sensations of the body, feeling breathing, noticing our states of mind and thoughts.</p> <p>Lesson 4: Stepping Back from Thoughts and Worries: Relating differently to thoughts and discovering a new freedom of this aspect of our experience that so often controls our lives.</p> <p>Lesson 5: Exploring Difficulty and Building Resilience: Use our attention based skills to turn towards and befriend difficult experiences.</p> <p>Lesson 6: Relating to Ourselves and Others: Exploring how we can support this aspect of our lives with mindfulness practice.</p> <p>Lesson 7: Developing Balance in Our Lives: How do I spend my time and do the choices that I make support my well-being and those around me? Reflecting on the ratio of nourishing or depleting activities.</p> <p>Lesson 8: Mindfulness and the Rest of Your Life: Ongoing need for awareness and skilled responding rather than reacting.</p>

Appendix M
Samples of qualitative data

Draw a picture to explain Mindfulness to your friend



Write some sentences to explain your picture

Mindfulness is where you might be worrying about lots of stuff but it turns out to be ok. So if you are worrying about stuff you don't get to enjoy all the lovely scenery around you. In my picture the man's mind is mindfull but the dog's is mindful.

Research Code Number

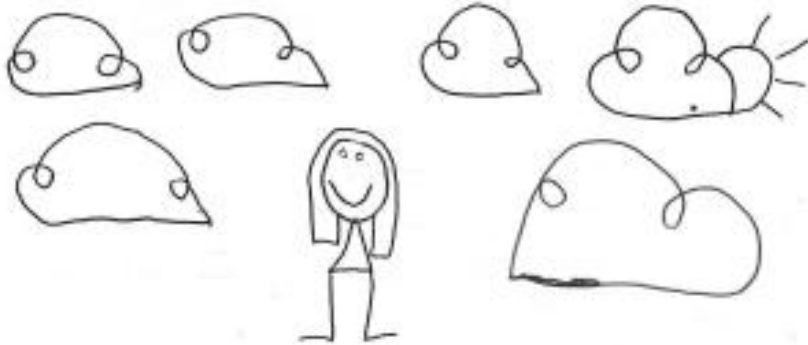
G SB320

Please circle

1	Did you enjoy the mindfulness course? Yes	<input checked="" type="radio"/> Yes / <input type="radio"/> No
2	Why did you enjoy / not enjoy the course? I enjoyed the course because it made me quite peaceful and cure my sadness. cured.	
3	What are the most important things you learned from the course? The most important things I learned from the course is to be in the present not the past.	
4	If there was a time when you used a mindfulness technique to help yourself in any way, please describe it. On New Years Eve, My Mum and Dad told me that Taz was really sick and they were going to the vet to be put out of his misery (he was an old cat) I was SUPER upset, I loved Taz so I did the mindfulness technique. It didn't really help much.	

My Internal Weather

Draw a picture of how your internal weather feels today.



Write some words to describe it

OK happy pretty good

If your internal weather is stormy, what can you do to change it into a warm sunny day

you could do some of the things you like doing. I would do some reading art and drawing.

Draw a picture of you changing it



Appendix N

Coding labels with initial subthemes and main themes identified

Coding labels with initial main themes being identified

SUBTHEMES WITH CODING LABELS

MAIN THEMES

CORE UNDERSTANDING OF MINDFULNESS

- Ability to explain mindfulness
- Being present
- Mindful vs Mind full
- Concentration
- Paying Attention
- Training the mind
- Mindfulness for self-regulation of emotions
- Preventative measure for stress in the future
- Mindfulness and brain mechanisms
- Understanding of Mindfulness Based CBT (Hot Cross Bun Model)
- Understanding the benefits for children
- Understanding demonstrated through creative stories
- Understanding demonstrated through Mindfulness News
- Bringing it all together in explanations

KEY LEARNING (as described by children)

- Understanding
- Attention
- Breathing
- Self-regulation
- Calming yourself
- Mindfulness for wellbeing
- Mindfulness for stress
- Mindfulness for attention
- Mindfulness and the brain
- Mindfulness and the mind
- Mindful Body
- Patience
- OK not to be OK

MINDFULNESS AS A PANACEA

- Mindfulness 'works'
- Mindfulness 'doesn't work'
- Understanding the need for sustained practice
- Viewed as panacea

THEME 1

Core understanding of mindfulness essential as a foundation to inform mindfulness practice

SUBTHEMES WITH CODING LABELS

MAIN THEMES

DEVELOPMENT OF EMOTIONAL SELF AWARENESS
Emotional self-awareness
Identifying internal weather
Identifying the need to self-regulate
Awareness of the story telling mind
Mindfulness based CBT (Hot Cross Bun Model)

EMOTIONAL REGULATION
Anger management
Stress management
Anxiety
Sadness alleviation
Dealing with worries
Impulse regulation
Changing internal weather
Ability to calm down

BUILDING RESILIENCE
Developing resilience
Coping mechanisms
Calming strategies
Building a personal toolkit
Pause rather than react
Working with MBCT (Hot Cross Bun)
Pain relief

THEME 2
Mindfulness supporting
emotional self-regulation
towards greater wellbeing

SUBTHEMES WITH CODING LABELS

MAIN THEMES

TRANSLATING KEY LEARNING INTO PRACTICE

Translating learning into daily life
Mindfulness helps me
New way of coping
Changing internal weather
Regular practices
Mindfulness breathing:

- Favourite breathing exercises
 - Finger breathing
 - Buddy (Teddy) breathing
 - 7-11
 - Stop Drop and Breathe
 - Paws.b
 - Hoberman breathing ball
 - FOFBOC
 - Petal breathing
 - Belly breathing
 - Hot chocolate breathing

Mindfulness of the Senses
Being present
Mindfulness as part of play
Use of MBCT for coping
Use of blog
OK not be OK
Finding your own methods

COMPASSION

Development of compassion
Conflict resolution
Managing difficulties within the family
Compassion within creative stories

COMMUNITY PRACTICE

School practice
Honest discussion
Using mindfulness practices within the family
Family engagement
Creative stories relating to family practice

THEME 3

Integration of mindfulness practice into daily life towards greater wellbeing

SUBTHEMES WITH CODING LABELS

MAIN THEMES

ENJOYMENT OF MINDFULNESS PROJECT

Fun
Calm
Stress
Learning
Honesty
Good experience
Worries
Helpful
Future
Concentration
Interesting
Silence
Additional Comments

Boring vs enjoyable linked to age profile
Boring vs enjoyable in senior classes linked to boys/girls

CONTINUATION OF MINDFULNESS PRACTICE

"Mindfulness is great for kids like me"

Continuation of practice linked to

- enjoyment
- success with emotional self-regulation
- stress
- calm
- future
- relaxing
- fun
- helpful
- understanding
- OK not to be OK
- Patience
- mindful body

- boring
- doesn't work

THEME 4

Enjoyment of school-based mindfulness programme plus personal experience of successful engagement is central to a willingness to continue with practice and integrate it into daily life

Appendix O

Child and Adolescent Mindfulness Measure (CAMM) Questionnaire 2

Read each sentence. Then, circle the response that tells **how often each sentence is true for you.**

1	I get upset with myself when I have feelings that don't make sense	Never true	Rarely true	Sometimes true	Often true	Always true
2	At school, I walk to and from class without noticing what I am doing	Never true	Rarely true	Sometimes true	Often true	Always true
3	I keep myself busy so I don't notice my thoughts or feelings	Never true	Rarely true	Sometimes true	Often true	Always true
4	I tell myself that I shouldn't feel the way I'm feeling	Never true	Rarely true	Sometimes true	Often true	Always true
5	I push away thoughts that I don't like	Never true	Rarely true	Sometimes true	Often true	Always true
6	It's hard for me to pay attention to only one thing at a time	Never true	Rarely true	Sometimes true	Often true	Always true
7	I get upset with myself for having certain thoughts	Never true	Rarely true	Sometimes true	Often true	Always true
8	I think about things that have happened in the past instead of thinking about things that are happening right now	Never true	Rarely true	Sometimes true	Often true	Always true
9	I think that some of my feelings are bad and I shouldn't have them	Never true	Rarely true	Sometimes true	Often true	Always true
10	I stop myself from having feelings that I don't like	Never true	Rarely true	Sometimes true	Often true	Always true

Greco, L., Baer, R. A., & Smith, G. T. (2011). Assessing mindfulness in children and adolescents: Development and validation of the child and adolescent mindfulness measure (CAMM). *Psychological Assessment, 23*, 606-614.