



## DOCTORAL THESIS

**Overcoming adverse childhood experiences in Irish schools**

**a pilot trial of whole-school trauma-informed approaches**

*Author*

MacLochlainn, Justin

[Link to publication](#)

### Copyright

The copyright and moral rights to the thesis are retained by the thesis author, unless otherwise stated by the document licence.

Unless otherwise stated, users are permitted to download a copy of the thesis for personal study or non-commercial research and are permitted to freely distribute the URL of the thesis. They are not permitted to alter, reproduce, distribute or make any commercial use of the thesis without obtaining the permission of the author.

If the document is licenced under Creative Commons, the rights of users of the documents can be found at <https://creativecommons.org/share-your-work/cclicenses/>

### Take down policy

If you believe that this document breaches copyright please contact Ulster University at [Library-OpenAccess@ulster.ac.uk](mailto:Library-OpenAccess@ulster.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

# **Overcoming Adverse Childhood Experiences in Irish Schools: A Pilot Trial of Whole-School Trauma-Informed Approaches**

Justin MacLochlainn

BSc (Honours) Psychology

MSc Applied Psychology

Faculty of Life and Health Sciences

School of Psychology

University of Ulster

Thesis submitted for the degree of

Doctor of Philosophy

April

2022

I confirm that the word count of this thesis is less than 100,000.

## Table of Contents

<b>TABLE OF CONTENTS .....</b>	<b>II</b>
<b>LIST OF TABLES.....</b>	<b>VI</b>
<b>LIST OF FIGURES.....</b>	<b>VII</b>
<b>LIST OF APPENDICES .....</b>	<b>VIII</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>X</b>
<b>THESIS ABSTRACT .....</b>	<b>XI</b>
<b>ABBREVIATIONS.....</b>	<b>XII</b>
<b>NOTE ON ACCESS TO CONTENTS.....</b>	<b>XIV</b>
<b>LIST OF PUBLISHED ARTICLES DERIVED FROM THIS THESIS .....</b>	<b>XV</b>
<b>CHAPTER 1. HISTORICAL RESPONSES TO STUDENT BEHAVIOUR IN IRELAND .....</b>	<b>2</b>
1.1.    INTRODUCTION TO CHAPTER ONE.....	3
1.2.    THE ORIGINS OF THE IRISH SCHOOL SYSTEM.....	3
1.3.    THE PRINCIPLE OF SUBSIDIARITY APPROACH TO EDUCATION .....	6
1.4.    CONTEXTUAL BACKGROUND TO THE ABOLITION OF CORPORAL PUNISHMENT .....	9
1.5.    CORPORAL PUNISHMENT IN IRISH SCHOOLS .....	13
1.6.    MANAGING STUDENT BEHAVIOUR IN THE POST ABOLITION ERA .....	15
1.7.    SUMMARY.....	16
<b>CHAPTER 2. CURRENT IRISH STATE RESPONSES TO STUDENT BEHAVIOUR.....</b>	<b>18</b>
2.1.    A NEW FOCUS ON STUDENT'S RIGHTS.....	19
2.2.    STATE INQUIRY ON CHALLENGING STUDENT BEHAVIOUR.....	22
2.3.    NATIONAL BEHAVIOUR SUPPORT SERVICE.....	28
2.4.    IDEOLOGICAL DEVELOPMENTS IN IRISH EDUCATION POLICY .....	32
2.5.    INFLUENCE OF AUSTERITY ON CLASSROOM BEHAVIOUR AND TEACHER WELL-BEING.....	35
2.7.    NEGATIVE SCHOOL CLIMATE .....	37
2.8.    SUPPORTIVE STUDENT-TEACHER RELATIONSHIPS.....	38
2.9.    SUMMARY.....	39
<b>CHAPTER 3. BIO-PSYCHO-SOCIAL FACTORS OF STRESS AND PROTECTIVE FACTORS IN THE CONTEXT OF CHILD AND ADOLESCENTS .....</b>	<b>42</b>
3.1.    INTRODUCTION .....	43
3.2.    EARLY GROUNDWORK OF TRAUMA .....	45
3.3.    CHILDHOOD ADVERSITY AND PSYCHOPATHOLOGY .....	46
3.4.    TAXONOMY OF STRESS EXPERIENCE .....	47
3.4.1. <i>Activation of the Stress Response .....</i>	49
3.4.2. <i>Dysregulation of the Stress Response.....</i>	52
3.4.3. <i>Neuro-biological Alterations of the Stress Response .....</i>	52
3.4.4. <i>Biological Alterations of the Stress Response .....</i>	53
3.5.    NEUROLOGIC, PSYCHIATRIC, AND BEHAVIOURAL ADAPTATIONS.....	54
3.5.1. <i>Executive Functions .....</i>	55
3.6.    BRAIN DEVELOPMENT AND ADVERSITY .....	56
3.6.1. <i>Sensitive Periods .....</i>	57
3.6.2. <i>Adolescent Sensitive Periods.....</i>	59
3.6.3. <i>Emotional Processing Mechanisms.....</i>	62
3.7.    EFFECTS OF TRAUMA EXPOSURE .....	63
3.7.1. <i>Understanding the Impact of Trauma in Schools .....</i>	64
3.7.2. <i>Teacher Secondary Traumatic Stress and Burnout.....</i>	66
3.8.    TRAUMA-INFORMED CARE.....	68

3.8.1. <i>Social Support</i> .....	70
3.8.2. <i>Resilience</i> .....	71
3.8.3. <i>Social and Emotional Learning</i> .....	74
3.9. SUMMARY.....	74
3.10. AIMS OF THE CURRENT RESEARCH .....	76
<b>CHAPTER 4. METHODOLOGY.....</b>	<b>78</b>
4.1. INTRODUCTION .....	79
4.2. PHASE ONE STUDY DESIGN .....	79
4.3. PARTICIPANTS.....	80
4.3.1. <i>Why Adolescence?</i> .....	80
4.3.2. <i>G-Power Calculation</i> .....	80
4.3.3. <i>Participant Demographic Information</i> .....	82
4.4. PROCEDURE .....	83
4.4.1. <i>Obtaining Ethical Approval</i> .....	83
4.4.2. <i>Measures Used in Analysis</i> .....	84
4.4.3. <i>The Modified Oxford Lifestyle and Coping Questionnaire</i> .....	84
4.4.4. <i>Socio-Demographic Details</i> .....	85
4.4.5. <i>Stressful Events and Problems Scale</i> .....	85
4.4.6. <i>Anxiety and Depression (Hospital Anxiety &amp; Depression Scale)</i> .....	86
4.4.7. <i>Strength and Difficulties Scale</i> .....	86
4.4.8. <i>Area Level Deprivation</i> .....	88
4.5. DATA PREPARATION .....	89
4.6. ANALYTIC PLAN .....	89
4.7. PHASE TWO STUDY DESIGN.....	90
4.8. PARTICIPANTS.....	91
4.8.1. <i>Why Educators?</i> .....	91
4.8.2. <i>G-Power Calculation</i> .....	92
4.8.3. <i>Participant Demographic Information</i> .....	93
4.9. PROCEDURE .....	95
4.9.1. <i>Obtaining Ethical Approval</i> .....	95
4.9.2. <i>Recruitment for Quantitative Study</i> .....	96
4.9.3. <i>Recruitment for Qualitative Study</i> .....	97
4.9.4. <i>Whole School Professional Development Workshop</i> .....	98
4.10. MEASURES USED IN ANALYSIS .....	99
4.10.1. <i>Attitudes Related to Trauma-informed Care Scale</i> .....	99
4.10.2. <i>Professional Quality of Life Assessment</i> .....	100
4.11. FOCUS GROUPS .....	101
4.12. DATA COLLECTION .....	102
4.12.1. <i>Data Collection for the Focus Groups</i> .....	104
4.12.2. <i>Data Preparation</i> .....	104
4.13. ANALYTIC PLAN .....	105
4.14. PHASE THREE STUDY DESIGN .....	105
4.15. PARTICIPANTS.....	108
4.15.1. <i>Why Adolescent Students</i> .....	108
4.15.2. <i>G-Power Calculation for the Student Study</i> .....	110
4.15.3. <i>G-Power Calculation for the Teaching Staff Study</i> .....	111
4.15.4. <i>Participant Demographic Information</i> .....	113
4.16. PROCEDURE .....	113
4.16.1. <i>Obtaining Ethical Approval</i> .....	113
4.17. RECRUITMENT .....	115
4.17.1. <i>Student Recruitment</i> .....	115
4.17.2. <i>Teaching Staff Recruitment</i> .....	116
4.18. AUDIO-GUIDED MINDFULNESS-BASED INTERVENTION .....	117
4.19. QUALTRICS® .....	120
4.20. MEASURES USED IN STUDENT STUDY .....	120

4.20.1. <i>Rumination Response Scale</i> .....	120
4.20.2. <i>Difficulties in Emotion Regulation Scale</i> .....	121
4.20.3. <i>Perceived Stress Scale</i> .....	122
4.20.4. <i>The revised Child and Youth Resilience Measure</i> .....	122
4.20.5. <i>The Patient Health Questionnaire</i> .....	123
4.20.6. <i>The Generalised Anxiety Disorder Scale</i> .....	123
4.21 MEASURES USED IN TEACHER STUDY .....	124
4.21.1. <i>Professional Quality of Life Assessment</i> .....	124
4.21.2. <i>Perceived Stress Scale</i> .....	125
4.21.3. <i>The Warwick–Edinburgh Mental Wellbeing Scale</i> .....	125
4.22. DATA COLLECTION .....	126
4.22.1. <i>Student Data Collection</i> .....	126
4.22.2. <i>Teaching Staff Data Collection</i> .....	127
4.22.3. <i>Data Preparation</i> .....	128
4.23. ANALYTIC PLAN .....	128
<b>CHAPTER 5. STRESSFUL EVENTS AND ADOLESCENT PSYCHOPATHOLOGY: A PERSON-CENTRED APPROACH TO EXPANDING ADVERSE CHILDHOOD EXPERIENCE CATEGORIES</b>	<b>130</b>
5.1. ABSTRACT .....	131
5.2. INTRODUCTION .....	132
5.3. DESIGN AND PARTICIPANT SAMPLE.....	136
5.4. RESULTS .....	140
5.5. DISCUSSION .....	149
5.6. CONCLUSION .....	156
<b>CHAPTER 6. WHOLE-SCHOOL TRAUMA-INFORMED APPROACHES: A SYSTEMATIC NARRATIVE REVIEW OF THE LITERATURE .....</b>	<b>158</b>
6.1. INTRODUCTION .....	159
6.2. METHODOLOGY .....	165
6.3. RESULTS .....	166
6.4. DISCUSSION .....	180
6.5. CONCLUSION .....	185
<b>CHAPTER 7. AN EVALUATION OF WHOLE-SCHOOL TRAUMA-INFORMED TRAINING INTERVENTION AMONG POST-PRIMARY SCHOOL PERSONNEL: A MIXED METHODS STUDY</b>	<b>187</b>
7.1. ABSTRACT .....	188
7.2. INTRODUCTION .....	189
7.3. DESIGN AND PARTICIPANT SAMPLE.....	194
7.4. METHODOLOGY .....	196
7.5. RESULTS .....	203
7.6. DISCUSSION .....	217
7.7. CONCLUSION .....	224
<b>CHAPTER 8. TARGETING EMOTIONAL DYSREGULATION USING AUDIO-GUIDED DAILY MINDFULNESS: A BRONFENBRENNER SYSTEMIC FRAMEWORK INCLUDING STUDENTS, TEACHERS AND CAREGIVERS .....</b>	<b>226</b>
8.1. INTRODUCTION .....	227
8.2. METHOD .....	237
8.3. STUDENT MEASURES .....	248
8.4. TEACHER MEASURES.....	252
8.5. RESULTS .....	256
8.6. DISCUSSION .....	264
8.7. CONCLUSION .....	270

<b>CHAPTER 9. DISCUSSION, RECOMMENDATIONS, AND FUTURE RESEARCH CONSIDERATIONS.....</b>	<b>271</b>
9.1.    BRIEF INTRODUCTION TO PHASE 1 .....	272
9.1.1. <i>Phase One – Aims (First Empirical Chapter)</i> .....	274
9.1.2. <i>Phase One – Summary of Key Findings (First Empirical Chapter)</i> .....	274
9.1.3. <i>Phase one: Clinical Implications</i> .....	279
9.1.4. <i>Phase one: Recommendations</i> .....	280
9.2.    BRIEF INTRODUCTION TO PHASE 2.....	281
9.2.1. <i>Phase Two – Aims (Narrative Review)</i> .....	284
9.2.2. <i>Phase Two – Summary of Key Findings (Narrative Review)</i> .....	285
9.2.3. <i>Phase Two –Implications (Narrative Review)</i> .....	286
9.2.4. <i>Phase Two – Aims (Trauma-Informed Intervention)</i> .....	287
9.4.5. <i>Phase Two – Summary of Key Findings (Trauma-Informed Intervention)</i> .....	288
9.4.6. <i>Phase Two – Recommendations (Trauma-Informed Intervention)</i> .....	291
9.5.    LIMITATIONS OF THE THESIS.....	292
9.6.    FINAL RECOMMENDATIONS .....	294
9.7.    FUTURE RESEARCH CONSIDERATIONS .....	301
9.8.    CONCLUSION .....	304
<b>REFERENCES .....</b>	<b>307</b>
<b>APPENDICES.....</b>	<b>403</b>

## List of Tables

<b>4.1</b>	Frequency of Demographic Characteristics	83
<b>4.2</b>	Frequency of Demographic Characteristics	94
<b>4.3</b>	Age Range of Students	116
<b>5.1</b>	Sample Demographics	141
<b>5.2</b>	Fit Statistics for the Unconditional LCAs	142
<b>5.3</b>	Model-Estimated Response Probabilities and Odds Ratios	145
<b>5.4</b>	Summary of Significant Tests of Mean Differences	147
<b>6.1</b>	Empirical studies	168
<b>6.2</b>	Measures, analysis, delivery, outcomes	170
<b>7.1</b>	Demographics of Intervention and Control Groups	203
<b>8.1</b>	Age Range of Students	241
<b>8.2</b>	Demographics of Intervention and Control Groups	256
<b>8.3</b>	Time 1/Time 2 Means and standard deviations	257
<b>8.4</b>	Pre-Intervention and Post-Intervention Mean Scores	259
<b>8.5</b>	Demographics of the Teacher Study on Mindfulness	261
<b>8.6</b>	Time 1/Time 2 Means and standard deviations	262

## List of Figures

<b>4.1</b>	Phase One: G-Power Calculation	81
<b>4.2</b>	Phase Two: G-Power Calculation	92
<b>4.3</b>	Design and Data Collection Time Points	103
<b>4.4</b>	Phase Three: G-Power Calculation (Students)	111
<b>4.5</b>	Phase Three: G-Power Calculation (Teachers)	112
<b>5.1</b>	Latent Class Profiles for 3-Class Solution	142
<b>7.1</b>	Design and Data Collection Time Points	194
<b>7.2</b>	Time1/Time2 means of ARTIC scales	204
<b>7.3</b>	Time1/Time3 means of ProQol subscales	205
<b>7.4</b>	Time1/Time3 means of ARTIC scales	206
<b>7.5</b>	Pre-workshop and 6-month follow-up mean ProQol scale	207
<b>7.6</b>	Pre-workshop and 6-month follow-up mean ARTIC scale	208

## List of Appendices

<b>Appendix 1</b>	Permission to Use Secondary Data	404
<b>Appendix 2</b>	RG1a Application	405
<b>Appendix 3</b>	RG3	411
<b>Appendix 4</b>	Stressful Events Checklist	415
<b>Appendix 5</b>	HADS Scale	417
<b>Appendix 6</b>	SDQ Scale	419
<b>Appendix 7</b>	RG1a Application	420
<b>Appendix 8</b>	RG6	430
<b>Appendix 9</b>	Approval Letter from Waitlist Control School	432
<b>Appendix 10</b>	RG3	433
<b>Appendix 11</b>	Participant Information Sheet	435
<b>Appendix 12</b>	Consent Form	438
<b>Appendix 13</b>	Attitudes Related to Trauma-Informed Care Scale	439
<b>Appendix 14</b>	Professional Quality of Life Scale	443
<b>Appendix 15</b>	RG1a Application	444
<b>Appendix 16</b>	RG2 Peer Review Report Form	454
<b>Appendix 17</b>	Participant Information Sheet (Parents)	458
<b>Appendix 18</b>	Consent Form (Parents)	462
<b>Appendix 19</b>	Participation Information Sheet (Teachers)	463
<b>Appendix 20</b>	Consent Form (Teachers)	466

<b>Appendix 21</b>	Participants Information Sheet (Students)	467
<b>Appendix 22</b>	Assent Form (Students)	469
<b>Appendix 23</b>	RG3 Filter Committee Report Form	470
<b>Appendix 24</b>	Audio-Guided Mindfulness Practices (n = 90)	471
<b>Appendix 25</b>	Rumination Scale	475
<b>Appendix 26</b>	Difficulties in Emotional Regulation Scale	477
<b>Appendix 27</b>	Perceived Stress Scale	478
<b>Appendix 28</b>	Resilience Scale	479
<b>Appendix 29</b>	PHQ-8 Scale	480
<b>Appendix 30</b>	GAD-7 Scale	481
<b>Appendix 31</b>	WEMWBS Scale	482
<b>Appendix 32</b>	Debrief Sheet	483
<b>Appendix 33</b>	Diagram of Systematic Search	484

## Acknowledgements

First, I would like to express my sincere gratitude to my first supervisor Dr Karen Kirby. Karen, you exude a trauma-informed attitude, your empathetic and compassionate nature coupled with your enthusiasm, support, guidance, determination, and friendship have made this journey an exceptional experience and one I am likely never to forget. I would also like to thank my second supervisor, Dr John Mallett. John, you conveyed an abundance of patience when teaching me various difficult statistical analyses, were always available when called upon, and exemplified a moral and ethical benchmark not only in the scientific method, but in general life as well. I would also like to express my gratitude to my third supervisor, Dr Paula McFadden. Paula, your unwavering enthusiasm, guidance, friendship, and support has positively contributed to my time spent in ‘climbing Everest’. Without the patience and support of my supervisory team I would have struggled to reach this point. I hope to keep in touch with you all and perhaps even work alongside you one day.

I am also grateful to all the Ulster University staff and fellow students from psychology who I have met in my time spent from being a psychology undergraduate through to the present. I am extremely grateful to the staff in the Research Office and School of Psychology for their unwavering support and assistance throughout my time at Ulster and for affording me the amazing opportunity to undertake this research through the Vice-Chancellor’s Research Scholarship (VCRS).

Finally, and most importantly, I am forever grateful to my wife Denise, and my three children, Tiarnán, Maelíosa, and Ríofach, your continued support and encouragement over the past few years has been incomparable.

## Thesis Abstract

**Objective:** In educating students with adverse childhood experiences (ACEs) it is acknowledged that school personnel play a key role in supporting student's learning and emotional needs, however, teachers are often unprepared and lacking in appropriate training to support students affected by trauma. Phase one attempted a conceptual expansion of the ACE checklist. Phase two determined whether professional development training in trauma-informed practice would lead to changes in school personnel attitudes towards trauma-informed care and other well-being outcomes. Additionally, this phase explored teachers' emerging perspectives following participation in training. Phase three determined whether a mindfulness-based intervention improved student and teacher mental health.

**Method:** Phase one utilised secondary cross-sectional data recruited from four post-primary schools in N.I. (n=864). Phase two utilised quasi-experimental waitlist-control pre-post data recruited from three post-primary schools (n=216), in addition to two focus group interviews (n=17). Phase three utilised controlled pre-post data recruited from one post-primary school (students, n=36; teachers, n=10).

**Results:** Phase one showed those at risk of adolescent psychopathology had the highest probability of encountering interpersonal relationship issues. Phase two demonstrated school personnel became more trauma-informed and had more favourable attitudes towards trauma-impacted students and consequently less likely to experience burnout, as well as experiencing a positive shift in perspectives, attitudes, and behaviours following training. Phase three showed no significant findings.

**Conclusion:** This thesis contributes to the small but growing body of research promoting more trauma-informed attitudes thus improving staff and student wellness in schools.

## Abbreviations

**AAA** - Always Available Adult

**ACE(s)** - Adverse Childhood Experiences

**ACTH** - Adrenocorticotropic Hormone

**ADHD** - Attention Deficit Hyperactive Disorder

**AIC** - Akaike Information Criterion

**ANOVA** - Analysis of Variance

**APA** - American Psychiatric Association

**ARC** - Attachment, Regulation, and Competency

**ARTIC** - Attitudes Related to Trauma-Informed Care

**ASTI** - Association of Secondary Teachers in Ireland

**AVP** - Arginine Vasopressin

**BIC** - Bayesian Information Criterion

**BSC** - Behaviour Support Classroom

**CASE** - Child and Adolescent Self-Harm in Europe

**CBITS** - Cognitive-Behavioural Intervention for Trauma in the Schools

**CI** - Chief Investigator

**CNS** - Central Nervous System

**CRH** - Corticotropin-Releasing Hormone

**CS** - Compassionate Schools

**CSAT** - Compassion Satisfaction

**DSH** - Deliberately Self-Harmed

**DSM** - Diagnostic and Statistical Manual of Mental Disorders

**DTD** - Developmental Trauma Disorder

**ED** - Emotional Dysregulation

**EEC** - European Economic Community

**EF** - Executive functions

**EPPI** - Evidence for Policy and Practice framework

**ESSA** - Every Student Succeeds Act

**GERM** - Global Education Reform Movement

**HEARTS** - Healthy Environments and Response to Trauma in Schools

- HPA** - Hypothalamic-Pituitary-Adrenal
- HTL** - Heart of Teaching and Learning
- IE** - Inner Explorer
- IMD** - Index of Multiple Deprivation
- LCA** - Latent Class Analysis
- LMR** - Lo-Mendel-Rubin
- MBI** - Mindfulness-Based Intervention
- MBSR** - Mindfulness-Based Stress Reduction
- NBSS** - National Behaviour Support Service
- NHTC** - New Haven Trauma Coalition
- NI** - Northern Ireland
- OECD** - Organisation for Economic Development
- OR** - Odds Ratio
- PIS** - Participant Information Sheet
- PTSD** - Post-Traumatic Stress Disorder
- ReLATE** - Reframing Learning and Teaching Environments
- RoI** - Republic of Ireland
- SAM** - Sympatho-Adrenomedullary
- SEL** - Social-Emotional Learning
- SOA** - Super Output Area
- SPSS** - Statistical Package for Social Sciences
- SSABIC** - Sample-Size-Adjusted Bayesian Information Criterion
- STS** - Secondary Traumatic Stress
- TBRI** - Trust Based Relational Intervention
- TICS** - Trauma-informed Compassionate Schools
- TUI** - Teachers Union of Ireland
- UK** - United Kingdom
- UNCRC** - United Nations Convention on the Rights of the Child
- US** - United States
- UUPEFC** - Ulster University Psychology Ethics Filter Committee

## Note on access to contents

“I hereby declare that with effect from the date on which the thesis is deposited in the Library of the University of Ulster, I permit the Librarian of the University to allow the thesis to be copied in whole or in part without reference to me on the understanding that such authority applies to the provision of single copies made for study purposes or for inclusion within the stock of another library. This restriction does not apply to the British Library Thesis Service (which is permitted to copy the thesis on demand for loan or sale under the terms of a separate agreement) nor to the copying or publication of the title and abstract of the thesis. IT IS A CONDITION OF USE OF THIS THESIS THAT ANYONE WHO CONSULTS IT MUST RECOGNISE THAT THE COPYRIGHT RESTS WITH THE AUTHOR AND THAT NO QUOTATION FROM THE THESIS AND NO INFORMATION FROM IT MAY BE PUBLISHED UNLESS THE SOURCE IS PROPERLY ACKNOWLEDGED”.

## List of Published Articles Derived from This Thesis

MacLochlainn, J., Mallett, J., Kirby, K., & McFadden, P. (2021). Stressful events and adolescent psychopathology: a person-centred approach to expanding adverse childhood experience categories. *Journal of Child and Adolescent Trauma*, 1-14.

MacLochlainn, J., Kirby, K., McFadden, P., & Mallett, J. (2022). An Evaluation of Whole-School Trauma-Informed Training Intervention Among Post-Primary School Personnel: A Mixed Methods Study. *Journal of Child and Adolescent Trauma*, 1-17.

## **Summary of the Introduction Chapters**

In the context of this thesis, which attempts to a) examine the prevalence of self-reported stressful events and associated psychopathology within a sample of adolescent students in our schools (empirical chapter one), b) introduce and implement a whole-school trauma-informed programme in one local post-primary school in an attempt to provide teachers and other auxiliary staff the tools required to manage student misbehaviour, build better student/teacher relationships, and improve upon school climate (empirical chapter 2 & 3), c) address emotional dysregulation and the impact of toxic stress on school-going adolescents utilising an audio-guided, mindfulness-based stress reduction programme (empirical chapter 4) it is important to first set the historical background of the Irish Education system.

The following introductory review of the Irish Education system and the relevant policies throughout the decades helps us understand some of the negative experiences that children may have experienced in school, but also some of the changes that have been attempted to be put in place to amend these stressful school environments. It also helps to present the changes that the school teachers may have experienced – for example using authoritarian – corporal punishment to control student misbehaviour to using other less physically aggressive methods but yet still not having the best or right type of collaborative relationship between the teacher and the student, and further still not enough emphasis on school relationships to repair and regulate the children. Hence, the rationale of presenting the Irish education system is to set the context of why the thesis will later introduce trauma-informed approaches in schools (as a solution to current school behaviour, school climate, and teacher/student relationships) following an examination of the impact of stressful events in a sample of school children aged 11-18 years of age.

## **Chapter 1.** Historical Responses to Student Behaviour in Ireland

## **1.1. Introduction to Chapter One**

The partition of Ireland in the 1920's produced both a 26-county Irish Free State and a 6-county Northern Ireland/Unionist State. Although the focus on educational matters related to students in both jurisdictions is interesting it should be noted that children in both States were conceptualised as broadly similar in child development terms. This chapter will focus on the background of education in the Irish Free State and will omit historical, educational affairs related to N. Ireland. In doing so, this chapter will not include information related to the political supremacy of Protestant Unionism and the segregation of students and whole communities due to religious beliefs or sectarianism. Though certainly noteworthy subject matter, this thesis is restricted by word count therefore will confine the first two chapters to focus on matters related to education in the Republic of Ireland.

Before an exploration of current educational policy responses to address persistent student misbehaviour, this chapter will present a brief exploration of the social, political, cultural, economic, and historical impacts that have moulded the evolution of the Irish education system. This chapter will also explore the education system's approach to managing misbehaviour in Irish schools both historically and currently. Details of constrained and limited State involvement in education and in relation to school discipline and misbehaviour is emphasised throughout.

## **1.2. The Origins of the Irish School System**

The evolution of education in Ireland has been considerably affected by an array of diverse and often conflicting factors and ideological influences (Rea-Garrett, 2015). Education in Ireland has been moulded by colonial Britain, by the Roman Catholic Church, and most recently by the pressures of neo-liberalism, and globalisation (Conway & Murphy, 2013; Mulcahy & O'Sullivan, 1989; O'Donovan, 2013). An unauthorised 'Hedge' school system of providing children and young people the rudiments of primary education emerged in Ireland

in the late 1700s in defiance of strict penal laws (O'Donovan, 2013). These 'Hedge' schools continued to 1829 until Catholic Emancipation and thus allowing the Catholic Church to usurp the central role in educating the Irish masses (Macveigh, 2012). Attempts to suppress Irish Catholic education by their colonial neighbours inadvertently reinforced a deep sense of pride and respect for the Roman Catholic Church and its role in educating the Irish (Coolahan, 2000). This is apparent by the continuing role the Roman Catholic Church plays in the Irish education system today (Coolahan, Hussey, & Kilfeather, 2012).

The late 1700s and early 1800s were typified by considerable political, social, economic, and demographic shifts within Europe associated with the consequences of the industrial revolution, expanding urbanisation and population increases (Coolahan, 1981). Modern society was shaped by new political discourse, social values, and sensitivities to childhood development following the French Revolution, in turn, inspiring the State to provide education to the masses (Coolahan, 1981). Some European Countries espoused mass education as an essential component to advance industrialisation. In 1831, the establishment of the first national school system in Ireland commenced under the guidance of Lord Stanley, the Chief Secretary of Ireland for that time (Rea-Garrett, 2015). During this period, UK Governments practiced a laissez-faire philosophy which accentuated the advantages of free market capitalism with diffused state intervention. However, even laissez-faire Governments believed it advantageous to develop an education system that made basic education provision available to the masses while reflecting national interests such as fostering attitudes of political loyalty, community harmony and cohesiveness among the Irish population (Rea-Garrett, 2015). Irish education authorities deemed it necessary to promote allegiance to the UK (Rea-Garrett, 2015)

Though the State's role in the provision of basic education was recognised and acknowledged by proponents of laissez-faire; post-national or secondary education remained an exclusive

commodity in which the middle classes could purchase just like other personal goods (Coolahan, 1981, p.53). Considering this disadvantage, secondary education in Ireland during the early 1800s was primarily funded by Catholic and Protestant religious orders, with Protestant post-national schools receiving some funding from the state (Rea-Garrett, 2015). Although two reports conducted during the mid-1800s advocated for State support of secondary schools as an extension to the national education programme, the recommended non-denominational composition of the recommendations was vehemently resisted and opposed by both Catholic and Protestant religious orders (Charleton, 2012). In an act of cooperation, the introduction of the Intermediate Education Act of 1878, suggested denominational secondary schools could receive funding provided their students succeeded in passing State examinations (Coolahan, 1981). This compromise led to segregated education becoming normalised in Ireland with the financial arrangement set out in the Act continuing until 1922 when the process of funding changed to capita funding for students and salaries for teaching staff in recognised schools (Coolahan, 1981).

Although national-school teachers in Ireland had negotiated terms of employment by 1880 which included salary scales, pensions, and training schools, post-national schoolteachers had no such terms of employment and therefore, were operating in much more precarious working conditions (Coolahan, 1981). Subsequently, teacher morale and the quality of teaching and learning was low and not held in the highest regard (Coolahan, 1981). It was not until the year 1918 with the establishment of the Registration Council that parity with national school teaching staff was achieved. The following twenty years saw secondary teachers secure salary scales, pensions, and employment contracts (Rea-Garrett, 2015).

Several inquiry commissions in the early 1900s were conducted on the structure and framework of the education system (Dale & Stephens Report, 1905; Killanin & Molony Committees, 1918; see O'Doherty & O'Donoghue, 2021). These inquiries documented major

shortcomings within the education system, such as the need for centralised authority to organise education at different levels as well as the current weaknesses with the curriculum being taught. One of the key recommendations from these inquiries called for greater State intervention in the education system (O'Buachalla, 1988). However, when independence was won from their colonial neighbours, no commission was founded, nor appraisal sought, to evaluate the underpinnings of the educational system in the new Free State (Hanna, 1998).

Despite armed revolution in Ireland which forced Britain to cede authority in the new Free State (26 of 32 Counties in Ireland), the new Free State Government lacked radical ideas and the potential to develop a progressive, welfare-based society (Rea-Garrett, 2015). Therefore, enabling inherited laissez-faire principles and policies to continue unhindered and unexplored (Lynch, 2006). This meant that educational reform was constrained to curriculum modifications that focused on Irish language revival and cultural nationalism (O' Donovan, 2013). Indeed, the only major structural reforms following the formation of the Free State concerned the establishment, in 1924, of the centralised role of the Department of Education which directed the coordination of primary, secondary, and technical education (Coolahan, 2003). Over the next couple of decades, denominational education remained unchanged with the State practicing a non-interventionist approach in the affairs of educating the masses (O' Sullivan, 2005).

### **1.3. The Principle of Subsidiarity Approach to Education**

During this time, secondary schools practiced under a patronage model which ensured the overall management of individual schools were delegated to school patrons, typically bishops, who had overseen and coordinated the establishment of the schools (Coolahan, Hussey, & Kilfeather, 2012). In keeping with liberal laissez-faire principles, bishops now had considerable power within their parish and had the power to negotiate the terms and conditions of employment of teaching staff along with the ability to conduct school matters as

they deemed fit, all that was necessary from these patrons was to comply with State examinations and inspection regulations (O' Buachalla, 1988). If the school met these criteria, they were left unhindered to conduct their affairs autonomously (Coolahan, 1981). A clear delineation of the roles of both patrons and the Government in secondary schools was provided in the Department of Education's inaugural annual report (Department of Education, 1925, p. 34).

The State at present inspects these schools regularly and exercises a certain amount of supervision through its powers to make grants to schools as a result of these inspections, but it neither funds secondary schools, nor finances the building of them, nor exercises any power or veto on the appointment or dismissal of such teachers or the management of schools.

Though the patronage model was explicitly funded by the State, the Roman Catholic Church expanded its power and influence on Irish education with limited State intervention (O' Buachalla, 1988).

The powerful and pervasive influence of the Catholic Church was consolidated by the Irish Constitution. Article 42 of Bunreacht na hÉireann (1937) unequivocally recognises that;

the primary and natural educator of the child is the family and guarantees to respect the inalienable right and duty of parents to provide, according to their means for the religious and social education of their children.

Further, the State ensured the denominational composition of education by defining the State's responsibility as ensuring that Irish children receive a moral, intellectual and social education through the provision of State aid (Hyland, 2012). Meanwhile, Pope Pius XI decreed that the Church's role in education was conferred from God and transcended the authority of any natural order (O' Buachalla, 1988). Further, the Pope's decree assigned the role of the state to ensure that the rights of parents to provide their children with a Christian education was paramount, and in doing so, the State should respect the rights of the Church to

deliver such education (O' Buachalla, 1988). A further decree from the Pope published in the Papal Encyclical of 1931 proved persuasive in influencing both public and political opinion on the State's responsibilities in education and society (Daly & Clavero, 2004). The Papal Encyclical stated that it is

an injustice...a grave evil and disturbance of the right order for a larger and higher association to arrogate to itself functions which can be performed efficiently by smaller and lower societies (as cited in, Powell, 1992, p. 232).

This principle is known as the principle of subsidiarity and thus regulates the exercise of powers by the State, specifically surrounding State involvement in social service provision where the needs of the individual could be met by their families, communities, or voluntary organisations (Considine & Dukelow, 2009). This principle asserts that higher orders should not interfere with what the lower orders can achieve and that human affairs are best dealt with at the least centralised level (Murray, 1995).

The principle was underpinned by the new Irish Constitution in 1937 and influenced the relationship between families and the State (Murray, 1995). Successive Governments and their Ministers of Education adopted a hands-off approach, abiding by the principle of subsidiarity, and fulfilling their role aiding the Church in the provision of mass education (Coolahan, Hussey, & Kilfeather, 2012). The first four decades of the new Irish Free State has been depicted as 'operating within a theocentric paradigm', in other words, God was the central focus, and the control of educational matters was accepted within a framework of Catholic values (Lynch, 2006, p.305). Indeed, the Church declared that the purpose of educating the masses was to lead the Irish people to God and eternal salvation (Lynch, 2006, p.305). This declaration lent support to the Church's assertion that religious authorities should 'claim privilege in relation to the ownership, management, and general control of schools' (Lynch, 2006, p.305).

Being fully aware of the power the Catholic Church had garnered prior to independence in Ireland, the new political leaders of the Free State were reluctant to provoke such a powerful entity (Hanna, 1998). Exploiting the principle of subsidiarity, the Catholic Church, giving authority through its own doctrines, extended its reach to the control of women, families, and morality (Considine & Dukelow, 2009). The traditional conservative values of the Catholic Church were largely acquiesced to by those who held political power, thus, the state did not challenge the Church's perspective on matters related to families nor the power they had acquired and accumulated within the State (Considine & Dukelow, 2009). The State's reluctance to intervene in education may be demonstrated by the ways in which the Free State ignored or turned a blind eye to the excessive use of corporal punishment in schools (Maguire & O' Cinneide, 2005).

The following section will now explore the contextual background which preceded the abolition of corporal punishment in Irish Free State schools. This exploration will provide the reader with context related to the social, cultural, economic, and political backdrops which were occurring during this period; all of which guided educational policy in Ireland.

#### **1.4. Contextual Background to the Abolition of Corporal Punishment**

The next two decades (1960-1980) in the Catholic Irish Free State was typified by intense political, social, cultural, economic, demographic, and attitudinal change (Rea-Garrett, 2015). With unemployment rising the State's young adults were emigrating en masse. The State, under considerable pressure from the Irish people to provide employment, began to signify a shift away from the Catholic conservatism which had dominated the landscape towards a more corporatist ideology (Macveigh, 2012). This shift can be traced to the publication of the Government's *First Programme for Economic Expansion* in 1958 which seemed to move away from Catholic dogma and embrace a new awareness of economic and industrial development and a new understanding of the links between education and socio-economic

progress (Moody & Martin, 2001). A few years later, a major analysis of the education system was overseen by the State, the *Investment in Education Report* of 1962 in collaboration with the Organisation for Economic Development (OECD), witnessed the Department of Education discard its previous role of merely administrating for the Church's educational system as they took up the reins and implemented initiatives in educational policy (Coolahan, 1981). This report represented a radical shift in ideology towards normalising the relationship between education and the economy (Coolahan, 1981). The report recommended the need for a skilled workforce to meet the Government's plans for economic expansion, equal opportunities to all who want to avail of education and the need for educational planners to adopt a more positivistic approach (O'Sullivan, 2005).

This radical shift was evidenced by an educational system less focused on nationalistic ideals and more concerned with creating the economic conditions for growth (Duignan, 2012). Throughout the 1960s and 1970s, post-primary education saw increased student participation, equality of educational opportunity for all Irish citizens, and the expansion of the curriculum to cater for the market needs of the economy (Mulcahy & O' Sullivan, 2014). Following this shift in ideology, policy initiatives such as State funding for secondary schools, the creation of State psychological services in 1965, free education and transport policies, and the investment in the provision of education for disadvantaged youth with special needs were implemented (Coolahan, 1981). Subsequently, these policies led to significant increases in student participation rates (over 100% increase in student numbers over a 15-year period), a restructuring of policy and procedures of existing schools, and the formation of State funded comprehensive schools in 1964 (O' Sullivan, 2005). The new objective of preparing Irish citizens for employment was met with much resistance from the Catholic Church and its followers (O' Sullivan, 2005). However, the State continued to move away from the

theocentric approach practiced over the previous decades to a more mercantile approach which demanded greater State involvement in education (Coolahan, 2012).

This new approach to education, which focused on the demands of the labour market, began to demonstrate economic growth by way of educational initiatives (Lynch, 2006). This supported the State to further invest in education which in turn, led to an increasingly educated workforce for a growing economy (Mulcahy & O' Sullivan, 2014). Following entry into the European Economic Community (EEC) in 1973, the need for a new approach to educational, social and economic policy in Ireland had cemented the necessity for the State to take greater control of educational matters within the State (O' Sullivan, 2005). During this time, the powerhouse of the Catholic Church conceded its privileged position and relinquished authority to increased State involvement in education (O' Buachalla, 1988). Centralised State control of the education system had direct and indirect influence over many aspects of the system by the 1980s (Coolahan, 1981).

This increased centralised State control of the education system coincided with the Church's attempts to remain relevant in a society that was experiencing radical change through influence by other countries (O' Sullivan, 2005). The Church's new position, ratified through the Vatican Council in the mid-1960s, recommended partnering with the State to deliver education to the masses (Mulcahy & O' Sullivan, 1989). This modernised approach from the Church coincided with a lack of young men interested in religion as a vocation, thus sharply declining the number of available religious clergy to be employed in Catholic schools (Considine & Dukelow, 2009). This shortage of clerical staff in schools along with the corresponding Church/State partnership to education, prompted the gradual weakening of the Church's cast iron grip on educational policy in Ireland and inspired new management structures to be formed in post-primary schools (Coolahan, 1981). Similar to primary schools, this new school management structure involved the introduction of parent/teacher

associations that took control of the day-to-day running of the schools leading to a new philosophical approach in Irish education (O' Sullivan, 2005).

From the mid-twentieth century, parent committees along with some Government ministers had been lobbying the Government for the abolition of corporal punishment (Parker-Jenkins, 2008). Corporal punishment was widely used to maintain discipline in schools it was the intentional use of physical adult force to cause pain to children and young people who were deemed to have misbehaved (Maguire & Cinnéide, 2005). Its methods included spanking, hitting, slapping, punching, pinching, nipping, ear pulling or choking (Dubanoski, Inaba, & Gerkewicz, 1983). This form of punishment was widely used in schools and persisted even in the face of increased disapproval from the general public (Parker-Jenkins, 2008). The Irish Government withheld “30 years of sustained public pressure” and was reluctant to intervene and take any form of decisive action as it considered discipline in schools to be a matter between school managers, teaching staff, and parents (Maguire & O' Cinneide, 2005, p. 650). However, following fierce debate, public pressure, and a need to align practice with the recommendations of the OECD Report (1966) along with the tenets of the European Convention on Human Rights (1949), corporal punishment was officially abolished in all Irish schools in 1982 (Maguire & O' Cinneide, 2005; Rea-Garrett, 2015).

Having provided the context surrounding the abolition of corporal punishment, the following section will endeavour to illustrate the use of such punishment in Irish schools against the backdrop of the subsidiarity approach to discipline throughout the pre-abolition era. As stated at the opening of this chapter, an exploration of constrained and limited State involvement in education and in relation to school discipline and misbehaviour is critical to understand the development of contemporary policy addressing the need for trauma-informed practice in Irish schools.

### **1.5. Corporal Punishment in Irish Schools**

Corporal punishment was enshrined as a parental right by the Childrens' Act of 1908 and was permitted if not encouraged in schools where teachers were viewed as acting proxies for parents (Parker-Jenkins, 2008). Following from the example set by many Irish parents during this time, both lay teachers and clergy supported and engaged in the physical chastisement of children in order to instil respect, order, and citizenship in children (Maguire & O' Cinneide, 2005; Rea-Garrett, 2015). During this time, the Irish State's education system commanded a strict disciplinary policy based on garnering respect for authority (Wickham, 2010).

Discipline involved provoking fear in children through regular physical beatings which were often disproportionate and punitive in nature (Ryan, 2009). With teaching staff ill-equipped to deal with behavioural issues they depended heavily on corporal punishment as a means of behaviour control (Rea-Garrett, 2015). Teachers during this time had little or no understanding of child and adolescent development and viewed other factors which may have impinged on a child's behaviour as insignificant (O' Buachalla, 1988). Indeed, during this time there was no training available on how to otherwise curtail classroom misbehaviour through positive teaching practices or methodologies (Wickham, 2010). Classroom misbehaviour was considered the fault of the transgressor and the role of the teacher was to suppress this form of behaviour in the classroom (Wickham, 2010). Even though corporal punishment was prevalent in all Irish schools, it was most pervasive and severe in Catholic run industrial schools and reformatories (Ryan, 2009). Defending the practice of corporal punishment, the Catholic Church asserted that teachers 'could not function without a stringent corporal punishment regime' and contended that such practices conformed to the prevailing methods of discipline in schools and homes across the country (Maguire & Cinneide, 2005, p.635).

Not only was the use of corporal punishment considered problematic both morally and ethically, but its success as a disciplinary method has also been widely contested (Rea-Garrett, 2015). Indeed, a considerable body of research evidence indicates that corporal punishment is ineffective in managing classroom misbehaviour (Parker-Jenkins, 2008). In fact, the use of corporal punishment in schools has been associated with adverse physical, psychological and academic outcomes, including increased aggression and conduct problems (Clark, 2004), school drop-out rates (Ahmadl, Said, Awang, & Yasin, 2014), depression and suicidal ideation (Turner, & Finkelhor, 1996), and physical assaults on their spouses later in life (Straus & Yodanis, 1996). Evidence suggests that corporal punishment obstructs classroom learning and increased the risk of school violence through the psychological mechanism of modelling (Eisenbraun, 2007). Additionally, attempts to build a culture of tolerance and respect for human rights were thwarted through the practice of corporal punishment and as a result, adversely affecting school climate (Skiba & Peterson, 2000). The practice has been linked to poorer self-esteem and self-confidence (Asmal, 1999), and diminished self-concept (Giant & Vartanian, 2003). Romeo (1996) contends that when someone in a position of power (teacher) uses violence against someone in a weaker position (student), the person in the weaker position may be in danger of developing fermented anger that may be inadvertently misplaced and directed at peers instead of the original aggressor (Romeo, 1996). In a similar vein, Asmal (1999) argues that such punishment does not develop discipline in learners but induces feelings of rage and revenge leading to anti-social behaviour (Asmal, 1999). Notwithstanding the likely negative outcomes associated with the utility of corporal punishment, the Irish States' decision in 1982 to abolish this form of punishment in schools appears to have been based on pressure deriving from European influences and not on any evaluation of the efficacy of such methods (Maguire & O' Cinneide, 2005).

### **1.6. Managing Student Behaviour in the Post Abolition Era**

With the withdrawal of the use of corporal punishment in Irish schools, educators focussed on the curriculum for assistance in managing student misbehaviour. The New Curriculum, which was first muted in 1971, placed emphasis on child-centred learning and development where the student is positioned at the core of the learning process rather than the body of information which is to be absorbed then regurgitated (McCarthy, 2011). The student is recognised as central in his or her own learning and development and teaching materials and methodologies are adapted to meet the needs of learners (McCarthy, 2011). In 1977, this New Curriculum was struggling to integrate with a system where corporal punishment was still in place. To counter the prevailing anxiety around change among Irish educators, the Minister of Education asserted that the New Curriculum would have inbuilt motivation for learning and bring with it unlimited opportunities for creativity and self-expression thus ensuring voluntary cooperation from students (Dáil Éireann, 1977). The then Minister went further by suggesting that teachers had already undergone sufficient professional training regarding student psychology and teaching methods to curtail any classroom misbehaviour by nurturing teacher-student relationships based on trust, respect, and affection, in turn, rendering corporal punishment unnecessary (Dáil Éireann, 1977). Consequently, no additional professional training supports, or resources were provided to schools to assist teaching staff to get onboard with what was to them a completely different practice and methodology for arresting student misbehaviour in their classrooms (Rea-Garrett, 2015). Faced with the realities of insufficient professional teacher training, burgeoning class sizes, under-resourced schools and materials, and a full-blown economic recession where poverty was becoming ubiquitous, the implementation of the New Curriculum was seriously hamstrung (Coolahan, 2003). In actuality, the child-centred approach advocated by the New Curriculum of 1971 was not widely practiced and ‘transmission models of teaching’ continued unabated (Drudy, 2009, p.

103). The New Curriculum was finally replaced in 1999 by the more advanced and developed Child Centred/Learning-Focused curriculum which situated education within a lifelong learning paradigm (O’ Donovan, 2013; Rea-Garrett, 2015).

With the abolition of corporal punishment, teaching staff who had been reliant on physical force for maintaining classroom discipline were confronted and challenged to reconsider this approach and to adjust to the new system of dealing with classroom misbehaviour (Wickham, 2010). However, the new system, with its absence of alternative classroom supports, and limited provision of upskilling through professional development, invited an over-dependence on new disciplinary sanctions such as detention, suspension, and expulsion measures to curb classroom misbehaviour (Wickham, 2010). The State’s dearth of forward-planning, minimal intervention, and lack of responsibility for student discipline and teachers’ mental health is evident in the absence of considerate policy provision in the period following the abolition of corporal punishment in Irish schools (Rea-Garrett, 2015).

### **1.7. Summary**

The initial sections of this chapter explored the foundations of the school system in Ireland. The powerful and pervasive influence the Catholic Church held over the State and on education was outlined, and the principle of subsidiarity in education which was embedded in the Irish constitution (1937) and its extensive influence on Irish education policy was discussed. The utility of corporal punishment in Irish schools along with contextual factors which encompassed its practice and abolition were explored in addition to changes in curricular domains towards a more child-centred approach following abolition. Throughout this chapter, confirmation of a minimalist intervention approach from the State in relation to education has been highlighted. From the very beginning of the establishment of the new Irish Free State, the State pursued a hands-off approach to education evidenced by the adoption of a subsidiarity position where State responsibility of operating schools was

delegated to the religious orders. Moreover, this minimalist approach could be seen through the State's approval of corporal punishment in schools in which the State failed to act despite being under considerable societal pressure to do so. Likewise, and in more recent times, the absence of State responsibility can be seen in relation to the lack of upskilling and professional development of teaching staff, and the dearth of procedures and policies to support the teaching profession following abolition.

The following chapter explores the State's growing involvement in educational matters following from a combination of social, ideological, and economic pressures including the increasing influence of the EU and the United Nations. An expansion of educational legislation, opening with the White Paper *Changing Our Education Future* (1995), indicated increased State recognition of issues related to children's rights and equal opportunities in education. This chapter explains the State's increased interventionist role in education in a post-abolition era and explores this new approach in light of the previous hands-off approach. Current policy responses and supports to address student misbehaviour are discussed while underlining the limitations of responses from the State.

**Chapter 2.** Current Irish State Responses to Student Behaviour

## 2.1. A New Focus on Student's Rights

The decade that saw the abolition of corporal punishment also saw a society mired in an economic recession, with job losses and emigration of its people, the island of Ireland was yet again experiencing economic difficulty. Unsurprisingly, there was little by the way of investment in education during this time, therefore development within the field had stalled (O' Donovan, 2013). It was not until the mid-1990s that the economy began to bounce back, in the following 10 years the Republic of Ireland (RoI) experienced a period of rapid economic growth known as the Celtic Tiger era which was perceived to have helped lift many of the Irish population out of poverty and in doing so transformed the RoI from one of the more disenfranchised nations of Europe into one of its wealthiest (Schafer, 2009).

During the 1980s a new economic philosophy of neo-liberalism was gaining international influence and its machinations could be witnessed through State policies on welfare provision (Rea-Garrett, 2015). This neo-liberal philosophy was adopted in the Irish State and was seen to influence Irish education policy by the privatisation of school buildings and a new emphasis on education as a vehicle to foster economic growth (Fraser, Murphy, & Kelly, 2013). Yet, Irish education policy was often at odds with these neo-liberal policies due to the influence of social and political trends stemming from within Europe (Fraser et al., 2013). For example, Irish education policy during this time had been largely influenced by an ever-increasing focus on the rights of the child (Houtsonen, Czaplicka, Lindblad, Sohlberg, & Sugrue, 2010).

As a matter of fact, the RoI, during the 1990s, was shaped by European social policy and by international human rights treaties such as the United Nations Convention on the Rights of the Child (UNCRC) which was then integrated into Irish State Law in 1992 (Considine & Dukelow, 2009). This integration of the UN Convention on the Rights of the Child into Irish State law indicated a new age for protecting children's rights (Hart, Lee, & Wernham, 2011).

This period also witnessed an increased volume of child protection legislation in the Irish State, evidenced by the Child Care Act (1991), the Children Act (1997) and the Children First Guidelines (1999). More recently, the extensive rise of State assurance to protecting the rights of the child may be seen in the development of a National Children's Strategy, the establishment of the Department of Children and Youth Affairs in 2011 and the Children's Referendum in 2012 (Burns & McGregor, 2019).

State assurances to safeguard the rights of the child has been greatly influenced by European and International trends, however, the issue of protecting children has been prioritised in the Irish State since the 1990s following damning revelations of child abuse committed by members of the Catholic Church (Murphy, Buckley, & Joyce, 2005; Ryan, 2009). Indeed, concerns around child protection were heightened due to numerous reports outlining the historical negligence of the Irish Government, Church authorities, the medical profession, and society in general (Murphy, Buckley, & Joyce, 2005; Ryan, 2009).

The Ferns Report (Murphy et al., 2005) provided disturbing and distressing evidence of systemic child abuse within industrial and reformatory schools that were controlled and run by the Catholic Church. The abuse involved severe physical abuse, pervasive and predatory sexual abuse and violence, wilful neglect, and alarming rates of emotional abuse. Murphy and colleagues (2005) recommended a public education programme and changes to existing statute books pertaining to child protection legislation. The fall-out from these reports created the impetus for the Government to develop stand-alone child protection legislation – the Children First Act (2015) in appreciation of the deep trauma that abuse can cause.

In relation to education, the Irish State focused on reform which commenced with the publication of the State's White Paper, *Changing Our Education Future* (1995), which set five principles as the foundation of the new educational policy — quality, equality,

partnership, pluralism, and accountability, leading to the introduction of the Education Act in 1998 (Killeavy, 2007). In tandem with the Education (Welfare) Act (2000), the Education Act (1998) presents the main legislative structure for primary and post-primary education in Ireland and has been shown to have positively impacted the Irish education system by improving the conditions of students within the system (O'Flaherty, McCormack, Gleeson, O'Reilly, O'Grady, & Kenny, 2018).

The Act is primarily concerned with providing best practice in teaching methodology to support the diverse needs of the student population along with the provision of professional development to upskill teacher competencies (Department of Education, 1998). The Act outlines the expectation of schools to 'establish and maintain systems whereby the efficiency and effectiveness of its operations be assessed, including the quality and effectiveness of teaching in the school and the attainment levels and academic standards of students' (Department of Education, 1998, p. 13). Still, under some influence of the Catholic Church, the State sought the Church's approval by assuring that ethos and spirit of their schools would be preserved and protected by this new law (Rea-Garrett, 2015).

As may be seen, the State, from the 1990s to the present, has gradually accepted its responsibilities in addressing inequalities within the education system. The outcome of the Education Act (1998) has led the State to formally acknowledge its legal obligations to provide an education for all members of society and to be answerable to all stakeholders, namely, the Department of Education and Skills Inspectorate Division, the boards of management, Patrons of schools, and the Teaching Council (National Economic and Social Forum, 2011, p. 54). To safeguard each student's rights to education following high levels of suspensions and expulsions in the wake of the abolition of corporal punishment, Section 29 was introduced as part of the Education Act (1998).

Section 29 of the Act afforded parents and students over the age of 18 the right to appeal any decision taken by the board of management concerning suspension, expulsion, and enrolment rebuttal to the Secretary-General (Department of Education, 1998, p. 27). Martin (2006) argues that this section of the Act severely curtailed teacher's' and managers' scope to employ punitive sanctions for disciplinary matters, even in the event when such measures may have been warranted (Martin, 2006). The Centre for Education Services at Marino Institute of Education asserted that the rights of the individual have taken precedence over the communal rights of the teaching community (Donnelly, 2005).

The primary problems with Section 29 identified by teachers included the time, cost, and school disruption involved in participating with an appeal, leading to flatlining teacher morale if the appeal was sustained, and the belief that the balance of the scales had shifted too far in favour of the noncompliant student and away from the rights of both the teaching staff and the more compliant students (Martin, 2006). Notwithstanding the positive impact the Education Act (1998) had on Irish education, Section 29 of the Act was seen to weaken teacher morale and further disempower teachers. Teachers felt dispossessed and deprived of a means of managing unruly students and believed, yet again, that they were left without adequate support, professional training, or additional resources to deal with problematic classroom behaviour by the State (Rea-Garrett, 2015).

## **2.2. State Inquiry on Challenging Student Behaviour**

In 1996, researchers conducted a scoping study into the situation of school discipline in Ireland, the study was commissioned by the Minister of Education (Martin, 1997). The study titled, *Discipline in Schools*, acknowledged that the education system plays a powerful role in thwarting feelings of exclusion, and alienation within the student population and recognises that education is a protective factor against social exclusion and marginalisation throughout

the lifespan (Martin, 1997). With specific reference to the secondary school sector, the Minister charged the study to ascertain:

- 1 If discipline, or the absence of discipline in schools is a national concern?
- 2 If there are models of best practice in the system from which others can learn?
- 3 What support structures would help create and maintain well-disciplined schools?

The report explored the concept of discipline and attempted to establish contextual factors, such as socio-economic deprivation, societal changes, and rising diversity in Irish schools and how these impact upon discipline in the classroom. The study utilised a mixed-methods approach to data collection and analysis, questionnaires exploring the research questions above were completed by 150 secondary school teachers and 100 primary level teachers. In support of these measures, a series of structured interviews were conducted with school management, parent committees, educational inspectors, and teaching staff. Martin (1997) also carried out on-site visits to 30 primary and secondary schools to allow school staff the opportunity to voice any concerns with which they may have held (Martin, 1997).

Findings drawn from the first research question concluded that 64% of secondary school teachers and 34% of primary school teachers reported that challenging student behaviour was a real issue of concern. The report further broke down the analysis by school location and found that 70% of teachers in urban schools, 43% in rural areas, and 91% in designated deprived areas reported real concern. An overwhelming majority of respondents reflected that the lack of discipline was becoming a real problem and is on every school's agenda (Martin, 1997). Findings drawn from the second research question indicated that quality teaching, the implementation of a school discipline charter, clearly defined discipline procedures, early parental involvement, good leadership from the principal, a school culture that is collaborative and participative, a school ethos of inclusivity, fostering positive student

behaviour, de-escalation practices, withdrawing privileges, and the consistent use of sanctions as best practice (Martin, 1997). Findings drawn from the third research question resulted in calls for class size reductions, a consistent whole-school approach in implementing a set of rules governing conduct, increased parental accountability and responsibility for their children's school behaviour, strong leadership within the school, and the provision of a range of external and internal specialist services that can assist in the management of extreme cases of disruptive and challenging classroom behaviour (Martin, 1997).

In response to Martin's (1997) report, the Department of Education and Science issued Circular 1998 M12/98, *Violence Towards Staff in Schools* to secondary level school management boards. The Circular highlighted the Minister's concerns of violence towards staff, verbal abuse, threats, and other forms of intimidation stemming from students, parents, and other staff members. The Circular goes further to stress that every effort should be made to create and maintain safety in schools (Department of Education and Science, 1998). One year later Circular 1999 M18/99: *Guidelines on Violence in Schools* was issued to secondary level school management boards. This Circular underscored the responsibilities of the board of management to ensure safety in schools for all students and staff alike. This Circular emphasised the positive impact of effective school policies pertaining to students' challenging behaviour and encouraged that discipline policies and procedures should be in place and practiced consistently in all schools. Discipline policies and codes of conduct became a legal requirement in all schools in 2000 under Section 23 of the Education Welfare Act (2000).

This non-interventionist, subsidiarity approach in the affairs of education is clearly demonstrated by the State's refusal to appropriately tackle challenging classroom behaviour in this context. Rather than intervening in a robust and strategic fashion and implementing

measures to tackle the problem, the State delegated its responsibility and legal duty to the board of management of schools under the Health and Welfare at Work Regulations (1993). Relinquishing responsibility of the safety and well-being of school staff to the board of management thus relegating the State to a subsidiary role has historically been par for the course in relation to education (Rea-Garrett, 2015). Nevertheless, over the last two decades, the Department of Education has increased the volume of legislation and regulations in the context of student behaviour, however, present day responsibility for managing such behaviour is left unchanged and falls on the shoulders of teachers, principals, and those who sit on the boards of management in individual schools.

Challenging classroom behaviour was further emphasised in 2003 with the establishment of the Discipline Committee by the Association of Secondary Teachers in Ireland (ASTI) teacher union (Rea-Garrett, 2015). The committee set up a survey examining the issues of disruptive classroom behaviour and how it was affecting its members. The survey, *Student Behaviour and Discipline* (2004) involved over 1,200 secondary school teachers and found that teachers were experiencing a wide range of disruptive behaviours from their students, the most prevalent of which was being verbally abused. Results from the survey indicated 71% of teachers experienced challenging classroom behaviour in the previous school term with 54% of participants responding to being verbally abused in the same period. In addition, almost all (98%) teachers surveyed indicated that their health, safety, and welfare were not given adequate attention (ASTI: *Student Behaviour and Discipline*, 2004).

Following the publication of this survey in 2005 and a plethora of media reports suggesting rising levels of student aggression, the Minister of Education and Science established a task force to examine the issues in secondary schools (Rea-Garrett, 2015). In tandem with the State establishing the task force, the Teachers Union of Ireland (TUI) commissioned a survey on student behaviour in post-primary schools (TUI, 2006). The TUI literature review

indicated a dearth of empirical data needed to support solid policy changes (TUI, 2006, p.1).

The main objective of the study was to ascertain the perceptions of teachers about student behaviour that does not conform to the code of conduct or rules set down in class. The TUI survey was conducted in 58 post-primary schools and recruited 1121 teachers to participate. Results indicated that 97% of participants had experienced some form of challenging student behaviour in the preceding week, and over 50% of participants stated that challenging student behaviour was either a ‘serious’ or ‘very serious’ problem in their school (TUI, 2006, p.6).

The State’s task force, chaired by Dr Martin, was assigned the following terms of reference:

- To examine the issue of challenging student behaviour and its impact upon teaching and learning
- To examine the efficacy of presently employed behaviour management strategies
- To elucidate existing best practice in nurturing positive student behaviour both nationally and internationally
- To deliver recommendations on the best strategies that promote improved school climates which enable teaching and learning to flourish (DES, 2006, p.1)

Findings from the taskforce’s *School Matters* report (Martin, 2006) revealed that only a minority of students were seen as engaging in challenging behaviours. However, the impact of such behaviours on teaching, learning, and the school climate was significant and can result in rising stress levels, disillusionment, and low morale among teaching staff. The report suggested that it is the ongoing, recurrent, and cumulative nature of disruptive student behaviour which weakens the school climate ‘in ways that are corrosive for the entire community’ (Martin, 2006, p. 52). Secondary schools exemplifying low levels of challenging

behaviour were distinguished by ‘good leadership, quality teaching, supportive parental involvement, caring relationships with staff, and effective structures in place’ (Martin, 2006).

The report goes on to suggest that these attributes coupled with effective pastoral care support systems, creatively implemented curricula, and the presence of staff trained in diffusing and proactively reducing potentially disruptive behaviours are the most effective strategies to address challenging student behaviour and improve school climates (Martin, 2006). Further, the significance of an effective, person-centred school leadership style that endorses the importance of nurturing positive relationships amongst students, teachers, and parents is specifically highlighted as playing a key role in advancing improved school climates and lessening the impact of challenging student behaviours (Martin, 2006). Martin (2006) reported that more serious behavioural incidents were perpetrated by students expressing a wide range of needs that were complex and reflective of wider society breakdown, and that mainstream education could not be expected to fulfil these needs without the support from outside agencies (Martin, 2006). The report proposed recommendations based on best international practice and highlighted that schools alone cannot provide all the solutions. Therefore, the ongoing support of all stakeholders encompassing the Department of Education, boards of management, parents and caregivers, and wider society is needed to ‘stem the corrosive influence of persistent, serious disruption in our schools’ (Martin, 2006, p.112).

The findings from the taskforce’s *School Matters* report reinforces the argument that the State needs to furnish all secondary levels schools with a more comprehensive, evidence-based approach to lessening the impact of challenging student behaviour on teaching and learning. The report underscored the fallibility in the current system which requires teaching staff, principals, and board of management members to respond to the complexities of classroom disruption in the absence of adequate training, policies, procedures, and support systems. This

chapter argues that it is this historically limited approach from the State in relation to education that has constrained the development of a unified, developed approach to effectively provide both, trauma-impacted students, and teaching staff the support they desperately need.

### **2.3. National Behaviour Support Service**

The *School Matters* report recommended the establishment of a National Behaviour Support Team that would be openly accessible to all schools experiencing overwhelming disruptive student behaviour, ‘within an overall coherent, clearly articulated, national framework of support’ (Martin, 2006, p. 142). Reacting to this recommendation, the Department of Education established the National Behaviour Support Service (NBSS) in 2009 to promote and support positive behaviour through the provision of support to school communities that is ‘grounded in evidence-based practice’ (NBSS, 2013, p.1). Increasingly, international best practice guidelines to address student disruptive behaviour involves the formation of a whole-school approach to positive behaviour support. The whole-school approach aims to nurture the development of a school climate that fosters positive behaviour and learning and strives to prevent inappropriate behaviour (Scott, 2005). The whole-school approach comprises a combination of intervention strategies to safeguard the rights of all members of the school community through the mechanism of mutual respect (Scott, 2005).

Similar to other international models such as the *Birmingham Framework for Intervention* model (Williams & Daniels, 2003) utilised throughout the UK and the *Response to Intervention* model (Ardoine, Witt, Connell, & Koenig, 2005) used in the US, the NBSS utilises a three-tier model of support. The NBSS model comprises three levels of support tailored to meet the demands of partner schools and the needs of individual students. The model relies on being pro-active and preventive rather than adversarial and punitive to improve students’ behaviour (NBSS, 2013). One staff member of each participating school is

provided extensive training by the NBSS to ensure design coordination, application and assessment of level 1 and level 2 whole school targeted positive behaviour initiatives (NBSS, 2009). The ‘Positive Behaviour Liaison’ teacher is allocated 11 hours per week for one year to implement the initiative (NBSS, 2009, p. 13).

Level 1 support is defined as the development of school ethos, systems, structures, policies and practices (NBSS, 2009). Identification of successful outcomes are highlighted and developed through evidence-based practice, negative classroom behaviour and barriers to learning and teaching are identified by the Positive Behaviour Liaison teacher and staff and management of the school are assisted in overcoming these issues (NBSS, 2009). Level 2 support involves working with students and teaching staff who are identified as needing additional supports (NBSS, 2009). Proactive and preventive targeted interventions are designed, applied, and assessed to address students’ needs. Such interventions may be designed to target the student’s social, decision-making, relational, and conflict resolution skills in addition to their compliance with school rules and consequences of non-compliance (NBSS, 2009). Teaching staff may also be offered additional professional training in managing classroom disruption and associated areas of conflict resolution and positive behaviour reinforcement (NBSS, 2009). However, if the school is still overwhelmed by classroom disruption and level 2 resources have been expended, the Positive Behaviour Liaison teacher may be allocated an extra 11 hours per week for a period of one school year to prepare them for the introduction of a set of level 3 interventions (NBSS; 2013).

Level 3 interventions are offered to groups of students who have not responded positively to level 1 and 2 interventions. Level 3 target students who exhibit a range of challenging and disruptive behaviours and are at ‘persistent risk of suspension and/or expulsion’ (NBSS, 2013, p.106). Level 3 intervention comprises the Positive Behaviour Liaison teacher working intensively with individual students and small groups of students to provide evidence-based

programmes such as the *Friends for Life Programme* (Henefer, 2010) designed to build students' social, emotional, behavioural, and academic skills (Rea-Garrett, 2015). Tertiary level interventions involve a comprehensive strategy that recognises the multivariate nature of students' disruptive behaviour and sets in motion a myriad of multi-disciplinary services across the sphere of student's life such as the home, community, peers, and school (O'Leary, 2011). Tertiary level interventions which are bespoke, individualised, and pro-active, focuses on the whole child and what external influences may be motivating behaviour rather than merely focusing on the reduction of disruptive classroom behaviour (Espelage et al., 2013).

Schools with students who fail to respond to behavioural supports provided may choose to introduce a Behaviour Support Classroom (BSC) that aims to support students with learning difficulties and who may be impacting negatively on others ability to learn in the classroom (NBSS, 2010). The BSC provides individual students with a combination of bespoke supports and then reintegrates these students back into the classroom (Rea-Garrett, 2015). However, BSCs are only offered in schools with substantial student behavioural problems (NBSS, 2010).

Wickham (2010) evaluated 6 schools that were involved in the programme and 6 schools that did not have this additional resource yet had similar levels of challenging student behaviour (Wickham, 2010). Wickham (2010) found that schools involved in the programme reported a 'more integrated approach, with greater collaboration between the professionals, to ensure that the best interests of the students are met in every aspect of their lives' (Wickham, 2010, p.98). He goes on to suggest that an increase in Government funding should be allocated to address challenging and disruptive student classroom behaviour, particularly schools in high deprivation areas (Wickham, 2010). Wickham (2010) asserts that this would assist all schools in disadvantaged areas by meeting the complex needs of students displaying challenging behaviours in a more holistic manner rather than being confronted with sanctions and

exclusionary measures (Wickham, 2010). He suggests that despite the huge costs involved in implementing these classrooms, BSCs have the potential to be cost-effective in the long-term by increasing the chances of these students to experience academic success thus ‘contribute in a positive way to society’ (Wickham, 2010, p. 99).

Three-tiered levels of support such as the above model have been linked with improved student behaviour and well-being (Grosche & Volpe, 2013) along with positive relationship building between teachers and students (Short, Case, & McKenzie, 2018). However, some researchers have highlighted that if level 1 interventions are not harnessed or implemented effectively, schools will be flooded with large numbers of students in need of targeted interventions, in turn, affecting the success of the programme (Clarke & Barry, 2015; Shores, 2009). In addition to this, presently the NBSS service is only available in 100 secondary level schools in Ireland and level 3 is only available in 50 (Jeffers & Lillis, 2021). Although research evidence suggests that the service and its model for intervention are efficacious and significantly aids participating schools in effectively addressing student disruptive behaviour, the programme is only currently supporting above 5% of post-primary schools in the Republic of Ireland (Jeffers & Lillis, 2021; Rea-Garrett, 2015).

As a State funded service that is constrained by token support from Government, the NBSS use their finances frugally and responsibly by promoting evidence base practice for their in-school interventions (Fitzgerald, 2019). To expand the full service into every post-primary school, the Government need to support and award an additional teaching post trained in the Behaviour for Learning Programme specifically targeting students in need of intensive individualised intervention (NBSS Level 3). Presently, only applications from schools that are most severe and struggling with low rates of completion of junior and senior cycles and experiencing more challenging disciplinary climates are being accepted into the programme (Fitzgerald, 2019).

While the development of education policy has been discussed previously, the following section examines the influence of ideology and how this shaped education policy in Ireland. In turn, the succeeding impact on teacher well-being, student-teacher relationships and trauma-impacted outcomes is briefly explored. This section concentrates on contemporary developments in relation to neo-liberalism and global education reform which have reconfigured the education system over the last number of decades. Though this section concentrates primarily on the influence of neo-liberal ideology on Irish educational matters, the author acknowledges that a range of conflicting ideological perspectives pertaining to education exists, including those of the Roman Catholic Church, parents, school personnel, and the students themselves.

#### **2.4. Ideological Developments in Irish Education Policy**

Lynch (2006, p.1) states that ‘the massification of education’ in European countries within the last 100 years has generated cultures and societies which have benefited considerably from State investment in education. To provide this level of social and economic development which flourishes from high quality education depends on the continuity of State investment (Lynch, 2006). Even with nation states recognising and acknowledging their role and obligation to support their citizens, most European countries now aspire to reduce social services so that they can be absolved from the financial pressures caused by the huge rise in public expenditure during recent years (Schafer, 2009). Correspondingly, a ‘new-right, neo-liberal agenda’ strives to offload the cost of education from the State’s books and onto the individual citizen (Lynch, 2006, p.1). Indeed, with the ever-increasing attempts to privatise services that are owned by the public, neo-liberalism ensures that citizens will have to pay ‘market value’ for services rather than have them provided for by the State (Lynch, 2006).

The features of neo-liberalism comprise of ‘individual competitiveness’, permitting market rule that is unfettered and unconstrained from government regulation, thus lowering State

support and investment in public services (Mooney-Simmie, 2012, p.489). Mooney-Simmie (2012) contend that neo-liberalism has led to the ongoing privatisation of education with the promotion of ‘new principles of quality management’ that are aligned with successful business corporations (Mooney-Simmie, 2012, p. 489).

These new principles have captivated educators’ focus on the ‘relentless drive for value for money and accountability’ swapping out previously held principles of ‘autonomy’ ‘professionalism’ ‘critical thinking’ and ‘care and community’ (Mooney-Simmie, 2012, p. 489). Mooney-Simmie (2012) argue that the neo-liberal agenda in Ireland considers teachers to be ‘little more than cogs in the machine’ of the new competitive smart economy, part of a balance sheet that views all public service workers as liabilities rather than a ‘real resource to assist the nation’ on the road to recovery (Mooney-Simmie, 2012, p. 490).

Skerritt and Salokangas (2020) argue that these neo-liberal principles are increasingly embraced in the Irish education system and reflected in policy on system performance, value for money, accountability with an emphasis on attainment of results (Skerritt & Salokangas (2020). Conway and Murphy (2013) argue that evidence of neo-liberal policy in Ireland may be seen in the move towards standardisation, a narrow focus on literacy and math and ‘higher stakes accountability’ (Conway & Murphy, 2013. p.11). These features are closely linked with global education reform that is advancing throughout the western world and beyond, ‘permeating and re-orienting education systems in diverse social and political locations which have very different histories’ (Ball, 2003, p.215). This neo-liberal strategy coined the Global Education Reform Movement, or GERM has largely been accepted as the ‘new educational orthodoxy’ (McCulloch, 2017, p.143). For schools, this means decentralisation, independence, efficiency and accountability, competitiveness, and being more business-like (Verger, Parcerisa, & Fontdevila, 2019). Although privatisation is not openly acknowledged

as a major component of the GERM, education reform is now considered a proxy for the marketplace of business opportunities and commercial solutions (Ball, 2018).

This market of managerialism and performativity presents an appealing alternative to the State-centred, ‘public welfare tradition of educational provision’ (Ball, 2003, p. 215). Ball contends that these features of GERM play an essential role in assisting States in positioning public service sectors in alignment ‘with the methods, culture and ethical systems of the private sector’ (Ball, 2003, p.216). Ball (2003) goes on to argue that by utilising these education reforms, the State has devolved authority, deregulated, and provided flexibility to schools when, these reforms are ‘processes of re-regulation, a more covert form of regulation, ‘or ‘self-regulating regulation’ (Ball, 2003, p.216). Evidence of GERM such as increased accountability and self-regulation within the Irish education system includes the establishment of whole-school evaluations and spot-check inspections in all schools, standardised testing, and the new board of management powers to suspend or dismiss under-performing teachers (Conway & Murphy, 2013).

Ball (2003) goes further to explain that subtle changes have taken place in the process of reform in relation to what it means to teach and what it means to be a teacher (Ball, 2003). Ball (2003) implies that the new system of educational reform insists on moving away from low-trust, centralised, forms of teacher control, and yet these reforms involve ‘new forms of very immediate surveillance and self-monitoring by the way of appraisal systems, target-setting, and comparison with other local and national schools (Ball, 2003, p.219). Paradoxically, these new reforms may inculcate in teachers an increased uncertainty and instability through the perception of being continually judged in ‘different ways, by different means, according to different criteria, through different agents and agencies’ (Ball, 2003, p.219). The combination of the pressures of performativity and accountability in teaching staff have been associated with low morale (Dunn, 2020), declining job satisfaction (Dugas,

Summers, Harris, & Stich, 2018), increased stress (Davidson-Harden, Kuehn, & Schugurensky, 2010), low motivation (Näkk, & Timoštšuk, 2021), burnout (Acton & Glasgow, 2015), and reduced self-efficacy (Rinehart, 2016). In turn, these pressures are also affecting students' motivation (Moreira, 2017), and an increased prevalence of teachers using authoritarian modes of policing classroom behaviour, poorer classroom climate, and low levels of teacher support for students' emotional well-being (Biesta, 2012; Gilbert, 2019). Biesta (2012) stresses the need for teachers to feel that they are working in a supportive environment and argues that in the absence of such an environment, classroom conditions may worsen and result in heightened levels of stress (Biesta, 2012).

## **2.5. Influence of Austerity on Classroom Behaviour and Teacher Well-being**

In 2012, the TUI commissioned an independent national representative survey to explore the *Impact of Budget Cuts in Education* on service provision, staff responsibilities, and working conditions (TUI, 2012). Results from the survey indicated that Government enforced austerity measures were impacting staff and posing major challenges for teachers to deliver quality service to their students; these findings were echoed by a similar survey conducted by ASTI a year later (*Schools Losing Teachers, Dropping Subjects, Despite Increased Student Numbers*; ASTI, 2013). As a result of these budget cuts, 33% of teachers surveyed reported an increased weekly workload of seven hours (TUI, 2012). The survey identified cuts to administrative staff, Year Head structures, and pastoral care staff as major factors in the rise of discipline and behavioural issues of their students (TUI, 2012).

Likewise, the TUI commissioned *Teachers' Workload Survey* (TUI; Reaper & McShane, 2010) indicated that over 80% of teaching staff reported that their daily responsibilities and workload had increased over the last five years due to dealing with teacher-student conflict and discipline issues in the classroom which were impacting on their health (TUI; *Teachers' Workload Survey*; Reaper & McShane, 2010). Nearly one-quarter of teachers in this survey

also responded to being subjected to threats and intimidation by their students within the preceding week (TUI, 2010). The survey concluded that increased staff workload coupled with increased curricular loading, and an increase in student classroom disruptive behaviour may have contributed to the reported rise in teacher stress levels (Kerr, Breen, Delaney, Kelly, & Miller, 2011), and burnout (Foley, 2013).

Towl (2007) argued that stress and occupational burnout are associated with a reduction in teacher performance thus affecting their ability to manage students' disruptive behaviour (Towl, 2007). The environmental conditions in Irish secondary schools may therefore inadvertently impact on students' learning, behaviour, and mental health. Teachers who are burned out, over-stressed, and overworked do not have sufficient time, motivation, professional training, or resources to effectively meet the needs of students who are impacted by trauma (Khoury-Kassabri, 2009). Teachers who experience burnout also have difficulty employing creative and well-planned curricula and struggle to nurture relationships with their students (Foley, 2013).

Another surreptitious source stemming from austerity that leads to teacher stress within the educational sector relates to job security (ASTI, 2013). An ever-increasing number of Irish secondary school teachers are employed on a causal basis with limited job security, often living on the minimum wage or below (ASTI, 2013). According to an Organisation for Economic Co-operation and Development (OECD) report, only 73% of Irish secondary level teachers are in permanent positions (OECD, 2012). Further, over 50% of teaching staff under the age of 30 are on non-permanent contracts of a year or less (OECD, 2012). Young teaching staff on non-permanent contracts are anxiously doing all that they can, and everything suggested of them in order to obtain full-time employment (Rea-Garrett, 2015). Lacking security, young teachers may therefore be reluctant to highlight difficulties with

challenging student classroom behaviour or seek support from school leadership due to the terror of endangering future employment prospects (Rea-Garrett, 2015).

## **2.6. Persistent In-Class Disruption**

Indeed, disruptive classroom behaviour has been defined in the Irish *School Matters Report* as ‘any event or incident which frustrates’ the duties of the school, which pertains to providing teaching and advancing learning in its student body (Martin, 2006, p.53). The report outlines a catalogue of significant disruptive behaviours which comprise of the following: persistent talking, opposing teacher authority, paying no attention to the presence of the teacher in the classroom, flinging objects, walking around the classroom without purpose and making unsolicited noises or humming sounds (Martin, 2006, p.7). Other forms of disruptive behaviours may include attempts to sabotage the teachers’ daily plans and duties and ignoring attention from the teacher (Turkum, 2011). These events may not demonstrably affect the classroom environment if they occur infrequently, however, constant, and repetitive disruptive behaviours may lead to teachers feeling demotivated, disillusioned, and exhausted in turn, creating a negative school climate for both teachers and students alike (Rea-Garrett, 2015).

## **2.7. Negative School Climate**

School climate represents student and staff perceptions relating to how much the school environment is perceived to be ‘supportive of learning and teaching and is appropriately organised and safe’ (Peterson & Skiba, 2001, p.1). The school climate may be perceived as negative if both students and teachers are exposed to high levels of conflict and low morale (Rea-Garrett, 2015). This form of school climate provides undercurrents that result in repetitive and entrenched conflict between students and teachers (Khoury-Kassabri, Astor, & Benbenishty, 2008). In contrast, a healthy school climate results in more desirable behaviours

from both students and teaching staff and has been shown to act as a protective factor against aggression, oppositional and conduct problems (Stewart, 2003). The bulk of school climate research centres on improving the environment by addressing the quality of nurturing, sense of belonging, and the relationship between students and teaching staff (Charney, 1998; Chen & Astor, 2008). In order to promote and provide positive school climates, schools should also embrace effective support systems comprising access to a mental health facilitator along with policies and procedures that are consistently followed (Cohen & Brown, 2013; Jones, McMahon, Reddy, Reynolds, Edmiston, & Rickoff, 2011).

High levels of aggression, oppositional and conduct problems within a school environment may result from the absence of adequate policies and procedures that contribute to healthier, more nurturing school climates (López, Pérez, Ochoa, & Ruiz, 2008). For example, schools that encourage student contributions to the curriculum by implementing effective student participation policies have been associated with an increase in student engagement and may be linked to decreased levels of aggressive and challenging behaviour (Khoury-Kassabri, 2009). In contrast, schools that enforce policy derived from a ‘hierarchical, authoritarian and non-democratic culture’ may exacerbate disruptive behaviour in the classroom by alienating students by means of imposition, in turn, enabling aggression and conduct problems to flourish (Smith & Monks, 2008).

## **2.8. Supportive Student-Teacher Relationships**

The literature indicates that supportive student-teacher relationships may be associated with a decrease in aggression and conduct problems in the classroom (Chen & Astor, 2009; Khoury-Kassabri, 2009). For instance, Espelage et al., (2013) found that teachers who can help in the regulation of student emotions are less likely to experience conduct problems in their classrooms (Espelage et al., 2013). Conflictual student-teacher relationships where the teacher is perceived to hold the power in the relationship are more predictive of student

aggression and conduct problems not only towards their teacher but also towards their peers (Chen & Astor, 2011; Olweus, Limber, & Mihalic, 1999). Whereas teachers who build and maintain positive relationships with their students are more likely to experience increased motivation, be more enthusiastic, and find their place of work and profession more enjoyable (Grayson & Alvarez, 2008).

## **2.9. Summary**

The sections of this chapter explored how the RoI was shaped by European social policy and human rights treaties such as the United Nations Convention on the Rights of the Child (UNCRC). How the integration of these policies and treaties led to a new age for protecting children's rights is evidenced by several new legislative Acts. This chapter also explored the harm caused by damning revelations of widespread child abuse in schools committed by members of the Catholic Church, as well as the heightened concerns around child protection that proceeded. These concerns created an impetus to develop the Children First Act (2015) in an awareness of the deep-rooted trauma that abuse can generate.

This chapter also examined educational reform leading to the Education Act (1998) and the Education (Welfare) Act (2000) as the main legislative structure for schools in the State. This section outlined problems with some sections of the Act identified by researchers in education, suggesting teachers were experiencing diminished morale, low perceived support, and a lack of professional training and resources to deal with problematic classroom behaviour. Additionally, an outline of the State inquiry on challenging behaviour was provided, as well as the response to this enquiry by the Department of Education leading to discipline policies and codes of conduct becoming a legal requirement in all schools in the year 2000. However, and what is suggested to be par for the course historically, the State delegated its responsibility and legal duty for managing challenging student behaviour firmly on the shoulders of teachers, principals, and the board of management of individual schools.

Furthermore, this chapter highlighted the moral panic instigated by the media surrounding rising levels of student aggression that led to the establishment of a task force to examine issues in secondary schools. The ensuing *School Matters* report (Martin, 2006) revealed that although a minority of students were engaged in challenging behaviours, the impact of such behaviours on teaching, learning, and school climate was significant. This report highlighted the fallibility in the current system in responding to the complexities of classroom disruption without adequate staff training, policies, procedures, and support systems. This chapter also explored the introduction by the Department of Education of three levels of support as outlined in the National Behaviour Support Service (NBSS, 2013), as well as the service's strengths and weaknesses. Finally, this chapter examined the influence of neo-liberalism on global education reform, the impact austerity and job security had on teacher well-being and student-teacher relationships and how persistent class disruption leads to teacher burnout and a negative overall school climate.

Now that the reader has an understanding of the policies implicated in behaviour management in the Irish education system, the outcomes of student misbehaviour on teaching staff's morale, school climate, and the socio-economic factors that impact upon such outcomes, this thesis will now begin to explore the biological, psychological and social rationale why children and adolescents may misbehave in the classroom. Unfortunately, this area of elucidation surrounding student classroom behaviours is not clearly delineated within Irish education policy. It is this author's contention that such policy would do well to integrate childhood developmental aspects into any teacher professional development programme that emphasised the bio-psycho-social factors involved in coping with stress from trauma/adversity to better understand and provide for students who struggle in a classroom environment. Up until now policy has neglected to explore how changes to teaching

pedagogy can impact on teacher/student relationships, classroom behaviour, and school climate therefore this area of research is currently understudied.

Thus, the following Chapter will provide an overview of how trauma and adversity are conceptualised and studied within the field of psychology with an emphasis on toxic stress emanating from adverse childhood experiences (ACEs), trauma, and other stressful events. In addition, these sections will provide a succinct overview of the link between childhood adversity and psychopathology in adolescence, describe a conceptually driven taxonomy centred on three categories of stress experience, and explain how the stress response system becomes activated and dysregulated within biological systems. Furthermore, the consequences imposed on brain maturation during sensitive periods of development associated with these dysregulated systems and how they affect cognitive and emotional processing of trauma-impacted youth will be discussed. Relatedly, how disrupted cognitive and emotional processing in trauma-impacted youth impacts on behaviour at school. Moreover, this chapter will provide a brief overview and description of secondary traumatic stress (STS) and burnout in teaching staff who have experienced or were currently experiencing the effects of toxic stress in the classroom. Additionally, this chapter will introduce the concept of trauma-informed approaches and provide an overview of protective factors such as resilience, social support, and social and emotional learning to aid in the prevention of the development of psychopathology in adolescence. Finally, the aims for the current thesis will be presented.

**Chapter 3.** Bio-Psycho-Social Factors of Stress and Protective Factors in the Context of Child and Adolescents

### 3.1. Introduction

Current global epidemiological data consistently recounts that approximately 20% of children and young people present with mental ill-health and that suicide is the third leading cause of death during this critical transition period of development (Belfer, 2008). Determinants of mental health include biological, psychological, and social factors, often intertwined and working in tandem (Crenna-Jennings, 2021). What is known is that the environment in which the child is born and grows is critical for their emotional and psychological development. For example, adverse childhood experiences (ACEs) have been found to account for near 30% of global mental ill-health (Kessler et al., 2010). These adversities are identified in the literature as traumatic incidences that include physical, sexual, and emotional abuse, physical and emotional neglect, living with parental mental ill-health and parental substance abuse during the first 18 years of life (Felliti et al., 1998). Exposure to chronic or toxic stress following strong, frequent, and/or prolonged adversity has been shown to lead to physical and mental ill-health problems in adolescence and adulthood (Chaby, Zhang, & Liberzon, 2017).

Other findings from decades of research are conclusive in that socio-economic factors also predict mental ill-health in adolescence. Reporting on the social determinants of mental ill-health, those living in the most deprived areas are twice as likely to present with mental health difficulties (30%) in comparison to those from the least deprived areas (15%; Bell & Scarlett, 2015). Again, chronic or toxic stress has been implicated in these findings (Jensen, Berens, & Nelson, 2017). Broader factors, including school and neighbourhood conditions, have also been found to play a role, with findings from the literature suggesting positive teacher-student relationships were associated with better child and young people's mental wellbeing outcomes, and experiencing exclusion and feelings of being under threat being linked to worse outcomes (Chesney, Goodwin, & Fazel, 2014; Tejerina-Arreal et al., 2020).

Once more stress is acknowledged as the underlying mechanism to experiencing worse outcomes (Murray-Harvey & Slee, 2007).

Overwhelmingly, scientific research on the biology of stress demonstrates that healthy development can be disrupted by prolonged and repeated exposure to the body's stress response systems. This high level of ongoing and sustained stress on the body and brain, known as toxic stress, can have damaging effects that can lead to derailed neurodevelopment; social, emotional, and cognitive impairment; the adoption of health-risk behaviours; mental health problems, disease, disability, social problems; and early death (De Bellis et al., 1999).

Being exposed to stress and learning how to cope with the physio-biological changes related to adversity is considered a crucial part of healthy child development (Gunnar & Quevedo, 2007a). When activated in a supportive, adult relational environment, the physio-biological changes caused by the child's stress response systems are buffered and returned to baseline (Horner, 2015). This outcome leads to the maturation of a healthy, resilient stress response system. However, prolonged, and sustained exposure to stress without the buffering effects of supportive adult relationships can become toxic resulting in trauma and divergent brain development (Giedd et al., 1999). In the absence of adult support, this form of stress exposure may derail normal brain architecture development which can lead to cognitive impairment, reduce the efficacy or effectiveness of the immune system, and increase the risk for stress-related illness throughout the lifespan (Dantzer, O'Connor, Freund, Johnson, & Kelley, 2008). In addition, this form of stress may cause inflammation, weight gain, altered resting heart rate, and sleep problems leading to mental health issues such as anxiety and depression (Giedd et al., 1999; Scientific Council, 2014). Cumulative stressful events or adversities have an increasing toll on the child's physical and mental health (Evans, Li, & Whipple, 2013). The more a child is exposed to these adverse childhood experiences (ACE's), the more likely

they will be at risk of cognitive impairment and concurrent and distal mental and physical health outcomes (Shonkoff et al., 2009).

### **3.2. Early groundwork of trauma**

The origins of the conceptualisation of psychological trauma and societal responses have been described in SAMHSA's Center for Substance Abuse Treatment (2014). They explain how theories about trauma began from the literature on soldiers engaged in combat in the 1860s who returned home from their experience in war with physical and emotional stress (SAMHSA, 2014; Thomas, Crosby, & Vanderhaar, 2019). This early literature suggested that what these soldiers were experiencing should be considered in the realm of the morally weak or battle fatigued. Clinical treatment considered appropriate for such conditions consisted of talk therapy and physical rest. Scroll on one hundred and twenty years, in the 1980's, the American Psychiatric Association (APA) finally recognised post-traumatic stress disorder (PTSD) as a clinical diagnosis. PTSD is classified as a psychiatric disorder that may befall individuals who have experienced or witnessed a traumatic event such as war, a natural disaster, sexual abuse, violence, serious injury or accident (Friedman, Resick, Bryant, & Brewin, 2011), resulting in impaired physical and psychological functioning (American Psychiatric Association, 1980; SAMHSA, 2014).

Although individual clinical treatment was regarded as the gold standard approach to addressing PTSD, new developing ideas concerning empowerment and psycho-social models in the healing of trauma-impacted individuals began to emerge (SAMHSA, 2014; Thomas et al., 2019). One such idea to assist individuals who had experienced trauma was peer support and this approach was adopted as a strong supplemental approach to treatment as usual (Mead, Hilton, & Curtis, 2001). Later, as society began to focus on the overwhelming distress of many marginalised and vulnerable populations the expansion of the definition of trauma

began to include other forms of traumatic experience such as interpersonal violence and perceived threat or harm (Houskamp & Foy, 1991).

Furthering the development of this new expanded definition, scholarly research continued to shine a light on the prevalence of such traumatic experiences among young people (Kinzie, Sack, Angell, Clarke, & Ben, 1989; Mazza & Reynolds, 1999). This concentrated focus on young peoples' experience of traumatic events was to some extent due to the pioneering seminal work of Felitti et al. (1998), who revealed that more than half of all adults in their landmark study had experienced at least one form of adverse childhood experience (ACE) during childhood (Felitti et al., 1998). They also reported that these childhood adversities were positively correlated with significant health-related issues later in life (Anda et al., 2006; Felliti et al., 1998). This research punctuated the position of preventing childhood trauma, ACEs, or stressful events, and has catapulted youth trauma to the forefront of trauma research in an attempt to recognise and respond to the needs of trauma-impacted youth in a bid to prepare them for transition into adulthood.

### **3.3. Childhood Adversity and Psychopathology**

Childhood adversity and trauma are risk factors for psychopathology not only in children but in young people and adults too. Owing to this, adversity in childhood has become a major focus for research that informs clinical practice around mental health (Tebe, Champine, Matlin, & Strambler, 2019). Following a traumatic, threatening experience, many children show temporary psychological symptoms (Danese, McLaughlin, Samara & Stover, 2020). Symptoms may include experiencing tearfulness, clinginess, attentional or sleep problems, avoidance, migraines, or stomach aches, becoming anxious, irritable, oppositional or withdrawn as they attempt to cope with their emotions. These symptoms are considered normal psychological responses to a traumatic experience that recedes within a couple of weeks for many children (Danese et al., 2020). However, when symptoms persist for over a

month and the child's functioning is impaired, children may be diagnosed with a psychological disorder (Danese, et al., 2020).

Evidently, when children and young peoples' experiences are burdened with threat, insecurity, abuse or neglect, their biological stress management systems are on overdrive. As such, consequences such as disrupted brain architecture and the establishment of a hairline trigger for subsequent activation of the stress response systems may lead to increased vulnerability to a myriad of biological, psychological, and social problems (Shonkoff, 2010).

Although more research is warranted to increase the specificity of causal mechanisms that mediate or moderate these effects, there is compelling evidence accessible throughout the literature of children and young people who have experienced serious abuse or neglect in institutional settings to defend the conclusion that early life adversity activates the stress response systems for short term benefit at the cost of long term physical and mental health (Cicchetti, Rogosch, Gunnar, & Toth, 2010; Pollak et al., 2010).

### **3.4. Taxonomy of Stress Experience**

Endeavouring to inform policy makers about the biological stress management system and the implications for both physical and mental health development, the National Scientific Council on the Developing Child (2014) in the U.S. offered a conceptually driven taxonomy centred on three categories of stress experience. The three categories included: positive, tolerable, and toxic stress. These categories differentiated normative stressful challenges that promote growth, to challenges that elevate significant risk to long-term health (Danese, et al., 2020). It is important to keep in mind that these categories refer to the physiological expression of the stress response system and not to the stressful events themselves.

The first and most benign category is *positive stress* which is characterized by brief increases in heart rate, blood pressure, and stress hormones such as cortisol, norepinephrine, and

adrenaline. The immediate precipitants comprise of challenges with handling frustration, adjusting to new settings, receiving well established injected immunisations, and other normative experiences. Positive stress is a common and essential part of healthy development that is experienced in the context of stable relationships with caregivers and belonging to a supportive environment that enables the restoration of the stress response system to baseline (Scientific Council, 2014).

The second category is *tolerable stress*. This type of stress refers to a physiological state that has the potential to negatively disrupt brain architecture (e.g., hippocampal neural circuit damage caused by excessive cortisol release) but is bolstered by stable and supportive relationships that facilitate adaptive coping (Shonkoff, 2010). The immediate precipitants comprise of dealing with the death or serious illness of a loved one, serious accidents, an acrimonious parental separation or divorce, or any other distressing event, but always in the context of stable relationships with adults in a supportive environment (Scientific Council, 2014). It is in such contexts that help restore the stress response system to baseline or equilibrium, thereby preventing disruptions to brain architecture that could precede long term consequences such as psychopathology or post-traumatic stress disorder (PTSD; Shonkoff, Boyce, & McEwen, 2009). Indeed, the presence of an always available adult (AAA; Bellis et al., 2017) who create safe and nurturing environments that develops the child's ability to cope in the face of a stressor is one of the critical factors that make serious stressful events such as these *tolerable* (Scientific Council, 2014). In many circumstances tolerable stress can have positive outcomes for the child experiencing such stress, however, in the absence of supportive and nurturing relationships, it can become toxic to developing physiological systems (Scientific Council, 2014).

The third category is *toxic stress*. This type of stress refers to strong, frequent, or prolonged activation of the child's stress response system in the absence of the buffering effects of an

AAA and a safe environment (Shonkoff, 2014). Stressful and distressing events that are chronic, overwhelming, and/or experienced in the absence of supportive and nurturing environments lead to a toxic stress response. Key risk factors acknowledged within the literature include severe deprivation (Knowles, Rabinowich, De Cuba, Cutts, & Chilton, 2016), physical, psychological, or/and sexual abuse (Nelson, Scott, Bhutta, Harris, Danese, & Samara, 2020), maternal depression (Ulmer-Yaniv, Djalovski, Priel, Zagoory-Sharon, & Feldman, 2018), parental substance misuse (McGruder, 2019), violence in the home (De Jong, 2016), and chronic discrimination (Shonkoff, Slopen, & Williams, 2021). Studies suggest that toxic stress can negatively disrupt brain architecture (McEwen, 2016), especially during sensitive developmental periods of brain maturation (Kautz, 2021). Areas of the brain implicated in fear and impulse responses may be affected by overdeveloped neuronal connectivity whereas areas implicated with executive functioning, such as reasoning, planning, and behavioural control may remain underdeveloped (Scientific Council, 2014). This type of stress leads to the establishment of a lower threshold for subsequent activation of the stress response systems leading to an increased vulnerability to stress-related disease or disorder as well as cognitive impairment that can persist throughout the life span (Scientific Council, 2014; Shonkoff et al., 2009).

### **3.4.1. Activation of the Stress Response**

The stress response system comprises both central and peripheral components. Within the central component of the stress response system lies the central nervous system (CNS): amygdala, hypothalamus, along with parts of the brain stem (Bucci, Marques, & Harris, 2016). Within the peripheral component of the stress system lies the sympatho-adreno-medullary (SAM) axis along with the hypothalamic-pituitary-adrenal (HPA) axis (Bucci et al., 2016). In the event of a stressor, both the SAM and HPA are activated. The precipitant stressor activates the amygdala, which detects and signals threats to survival within the

immediate environment (LeDoux, 2000). When amygdala activation occurs, the hippocampus (involved in learning and memory), the pre-frontal cortex (involved in executive functioning and cognition), and the locus coeruleus in the pons (responsible for autonomic systems implicated in the stress response) modulate its influence (McEwen, 2007).

As soon as the incoming stimulus is interpreted as a stressor, the SAM axis releases norepinephrine and epinephrine (noradrenaline and adrenaline). These chemicals activate the fight-or-flight response to redirect blood, oxygen, and energy to the major organs through the initiation of synchronized physiologic adaptations (Haggerty, Garmezy, Sherrod, & Rutter, 1996, p. 188; Herd, 1991). These adaptations include a constriction of the blood vessels and a rise in the force of cardiac contraction to increase blood levels in the brain, large muscle groups, heart, and other major organs (Bucci et al., 2016). The outcome of these adaptations includes an increased heart rate, blood pressure, muscle tone and alertness, an increase in oxygen intake to the brain and other organ groups, along with the release of stored glucose and fat to be utilised as an energy source (Bucci et al., 2016). Additionally, an activated SAM axis increases arousal, alertness, and vigilance, improves cognition through focused attention and inhibits appetite, digestion, and immunity. Finally, the system detoxifies by clearing the body of metabolic and catabolic waste (Chrousos, 1997; Tsigos & Chrousos, 2002).

In addition to the activation of the SAM axis in response to a stressor, signals emanating from the amygdala and the locus coeruleus are directed to the hypothalamus, stimulating activation of the HPA axis (Tarullo & Gunnar, 2006). When this axis is induced during a perceived stressor it releases corticotropin-releasing hormone (CRH) and arginine vasopressin (AVP) from the hypothalamus to the pituitary gland (Bucci et al., 2016). Sequentially, the pituitary gland secretes adrenocorticotropin hormone (ACTH) into the bloodstream. ACTH initiates the adrenal cortex to secrete glucocorticoids such as cortisol (Tarullo & Gunnar, 2006). Typically, normal HPA axis function is balanced by two corticosteroid receptors with

contrasting effects: mineralocorticoid and glucocorticoid receptors (Habib, Gold, & Chrousos, 2001, p.714). Mineralocorticoid receptors located in the hypothalamus are tasked with regulating blood pressure, circadian rhythm, the availability of cerebral glucose, and the response rate of neuronal activity, priming the body for a fight-or-flight response if required (Habib, Gold, & Chrousos, 2001, p.715). In contrast, glucocorticoid receptors located in the hypothalamus and pituitary are tasked with the termination of the stress response through constraining the secretion of CRH and ACTH. These receptors regulate the duration of exposure to glucocorticoids, in turn, decreasing the effects of these hormones on biological systems by minimising the cascade effect once the body is no longer exposed to the precipitant stressor (Tarullo & Gunnar, 2006).

In addition to both the SAM axis and the HPA axis which as discussed are peripheral components of the stress response system, both axes also interact with other major components of the central nervous system (CNS; Bucci et al., 2016). For example, the mesocorticolimbic system (also known as the reward centre), plays an important role in cognition and motivation thus is a target for substance misuse and addictive behaviours (Bucci et al., 2016). This system comprises dopaminergic neurons implicated with cognitive functioning and is associated with the reward circuitry of the brain including the prefrontal cortex (Roth, Tam, Ida, Yang, & Deutch, 1988). Additionally, the amygdala-hippocampus complex (also known as the emotional centre) crucial for memory, decision making, and fear responses, mediates the retrieval of information of the stressor along with the emotional salience of the stressor (Charmandari, Tsigos, & Chrousos, 2005).

Once the body is no longer exposed to the precipitant stressor or is in the presence of an always available adult in a safe and nurturing environment, the parasympathetic component of the autonomic nervous system makes an assessment to de-activate the SAM axis, while cortisol regulates the activation of the HPA axis and inhibits the secretion of CRH and ACTH

(Shonkoff et al., 2009). Simultaneously, these processes end the stress response and facilitate the return of the bodily systems to equilibrium (Bucci et al., 2016).

### **3.4.2. Dysregulation of the Stress Response**

During a toxic stress response, the child's biological systems may not have the ability to regulate the SAM and HPA axes. When exposed to a stressor in the absence of an AAA or/and a safe and supportive environment the child may be unable to regulate their stress (Chrousos, 1997). This dysregulation can lead to an activated SAM and HPA axes that are prolonged and leads to the release of stress-induced chemicals such as cortisol, epinephrine, and norepinephrine that is dysregulated (Tsigos & Chrousos, 2002). Due to this dysregulation, the circulating stress-induced chemicals may become chronically excessive or chronically depleted (Bucci et al., 2016).

### **3.4.3. Neuro-biological Alterations of the Stress Response**

Studies have identified structural and functional brain impairment in children and young people who experienced maltreatment (Kavanaugh, Dupont-Frechette, Jerskey, & Holler, 2017). For example, structural imaging has identified decreased brain volume in children and young people who experienced stress and trauma (Carrión, Weems, Richert, Hoffman, & Reiss, 2010), and a reduction in volume in the prefrontal cortex and hippocampus (Carrión & Wong, 2012). Functional imaging studies also identified decreased activation of the hippocampus during memory-based tasks (Carrión & Wong, 2012), and decreased activation in the prefrontal cortex following inhibitory control tasks (Hart & Rubia, 2012). Additionally, imaging studies have identified divergence in cross-connectivity between structural regions of the brain (Hart & Rubia, 2012). These studies, and more, provide solid evidence of neurobiological dysregulation and brain divergence following childhood adversity and trauma (Kavanaugh et al., 2017).

### **3.4.4. Biological Alterations of the Stress Response**

This dysregulated stress response is particularly concerning for children and young people due to the developing brain being highly plastic and affected by the environment (Bucci et al., 2016). A dysregulated stress response system may generate biological alterations that can harm brain architecture and affect integrated biological systems, such as the nervous, endocrine, and immune systems, also known as the neuroendocrine immune circuitry (McEwen, 2006). This circuitry mediates the toxic stress response. Prolonged and repeated activation of the stress response in early childhood can diminish neuronal connectivity in important areas of the central nervous system that assist in the regulation of the SAM and HPA axes (McEwen, 2006). Individuals with altered functioning in the neuroendocrine immune circuitry have been found to be at increased risk of developing chronic illness and mental health problems (Tarullo & Gunnar, 2006).

#### **3.4.4.1. Nervous System**

Prolonged and repeated exposure to early life adversity can lead to structural and functional changes in stress sensitive areas of the brain such as the hippocampus, the amygdala, and the prefrontal cortex (Cerqueira, Mailliet, Almeida, Jay, & Sousa, 2007; McEwen, 2007; McEwen & Gianaros, 2011). These areas of the brain play essential roles in the regulation of the SAM and HPA axes. For example, prolonged and persistent exposure to adversity has been linked to a reduction in prefrontal cortex synaptic plasticity in children and prefrontal cortex degeneration in adults (Cerqueira et al., 2007), an increased volume of the amygdala in children and degeneration in adults (McEwen, 2007), and a reduced volume in the hippocampus in adulthood (McEwen & Gianaros, 2011).

#### **3.4.4.2. Endocrine System**

Prolonged and repeated exposure to early life adversity is associated with altered hormonal levels consistent with chronic activation of the HPA axis: heightened CRH levels, low levels

of cortisol measured in the morning, and increased levels of cortisol measured in the afternoon. These alterations produce flatter circadian variation and elevated daily cortisol secretion (Miller, Chen, & Zhou, 2007), along with a disrupted inhibition of cortisol on the HPA axis (Heim, Newport, Mletzko, Miller, & Nemeroff, 2008) associated with psychopathology in adolescence (Doane, Mineka, Zinbarg, Craske, Griffith, & Adam, 2013). In severe cases of prolonged and persistent activation of the stress response system, HPA activity decreases to low leading to a deficiency in normative hormonal levels (Miller et al., 2007).

#### **3.4.4.3. Immune System**

A dysregulated HPA axis has heightened effects on the immune and inflammatory response due to the presence of glucocorticoids and their influence on the immune response (Raison & Miller, 2003). When the sympathetic nervous system is activated during a stress response proinflammatory cytokines are secreted into the neuroendocrine circuitry. These cytokines are produced by the immune system to prevent the organism from becoming infectious and are responsible for adaptive responses known as sickness behaviour which increases recovery rates by conserving energy to tackle acute inflammation (Bierhaus et al., 2003; Dantzer et al., 2008). Besides the functionality of decreasing the risk of sickness, proinflammatory cytokines also instruct the HPA axis to secrete cortisol which inhibits the HPA axis and the inflammatory response after the threat has been absented (Bucci et al., 2016). Prolonged and repeated exposure to early life adversity inhibits anti-inflammatory responses and results in elevated levels of inflammation within these systems (Rhen & Cidlowski, 2005).

### **3.5. Neurologic, Psychiatric, and Behavioural Adaptations**

Recent research suggests that proinflammatory cytokines and increased levels of stress-induced hormones contribute to the pathophysiology of developmental, cognitive, mental, and behavioural problems in children and adults (Gabbay et al., 2009; Raison, Capuron, &

Miller, 2006). A dysregulated HPA axis is associated with both behavioural and cognitive adaptations in the prefrontal cortex, hippocampus, and the amygdala (Bucci et al., 2016). Frequent and prolonged exposure to adverse childhood experiences (ACEs) and toxic stress demonstrably causes diminished neuronal connectivity in the prefrontal cortex linked to impairment of executive functions, such as attention, impulse control, working memory, and problem solving (Cerqueira et al., 2007). In the hippocampus, a toxic stress response can lead to behavioural changes linked to impaired memory and learning (Cerqueira et al., 2007). In the amygdala, toxic stress responses cause adaptations in behaviour such as an increased awareness and sensitivity to potential threat (hypervigilance), in addition to learned behavioural responses to stimuli perceived as being a threat (fear conditioning; Cerqueira et al., 2007).

Adversity has also been associated with an increased prevalence of psychopathology linked to disrupted functionality of the HPA axis (Heim et al., 2008). Children and young people who are exposed to ACEs and toxic stress have an increased incidence of suicidal ideation, suicide attempts, and dysthymia (Dowd, 2017). A myriad of other conditions is suggested to originate from an overactive HPA axis, including anorexia, obsessive-compulsive disorder, anxiety, and addiction (Charmandari et al., 2005). Moreover, poor quality caregiving early in life can have deleterious effects on HPA regulation and is suggested as a contributory mechanism to increased risk of mental health issues, such as PTSD, depression, anxiety, eating disorders, substance misuse, personality, and conduct disorders (Gunnar & Quevedo, 2007a; Gunnar & Quevedo, 2007b).

### **3.5.1. Executive Functions**

Executive functions (EF) are frequently studied aspects of neurocognition following exposure to childhood adversity and trauma (Kavanaugh et al., 2017). Results elicited from these studies show executive function impairment following maltreatment. Specific EF

impairments have been identified and include inhibition control, cognitive flexibility, attention, working memory, planning, and problem-solving (Augusti, & Melinder, 2013; Barrera, Calderón, & Bell, 2013; Cowell, Cicchetti, Rogosch, & Toth, 2015). EF has been associated with specific typologies of adversity and trauma exposure. Physical and sexual abuse has been linked to difficulties in problem-solving (Fishbein, Warner, Krebs, Trevarthen, Flannery, & Hammond, 2009), and cognitive flexibility (Kavanaugh, Holler, & Selke, 2015). Whereas emotional abuse has been associated with attention and working memory (Kavanaugh et al., 2015). When compared to those with a history of neglect, children who experienced both neglect and physical abuse had additional impairments in problem-solving, abstraction, and planning functionality (Nolin & Ethier, 2007). EF has also been associated with PTSD (Kavanaugh & Holler, 2014), PTSD symptoms (De Bellis, Hooper, Spratt, & Woolley, 2009), along with anxiety and depression symptoms (Kavanaugh & Holler, 2014). Prolonged and persistent maltreatment has additionally been linked to EF functioning (Cowell, Cicchetti, Rogosch, & Toth, 2015). In sum, EF impairment has been found in children and young people following maltreatment (Kavanaugh et al., 2017). Specific factors associated with specific typologies of adversity, duration, frequency, and timing of exposure, presence of PTSD, anxiety, and/or depression symptoms all appear to be implicated in the risk of EF impairment.

### **3.6. Brain Development and Adversity.**

As discussed, when children are exposed to trauma and other stressful events, the brain's stress response system is activated, flooding the body with a cascade of hormones and neurotransmitters to protect the child from danger and increase chances of survival (Bucci et al., 2016). Unlike neurotypical development, children exposed to adversity are more at risk of developing an overdeveloped stress response system which ultimately can lead to brain functionality impairment (Perry, 1997, p.128). Due to the experience-dependent nature of

brain development prior to the age of 18, and during the first 3 years, children and young people exposed to stressors in the absence of a supportive environment may experience a myriad of impairments across emotional, behavioural, social, and academic domains (Barta, 2018). Prolonged or severe adversity and trauma induce biological changes in the brains of children establishing a default network of neuronal activity linked to a survival bias (Perry, 1998). Despite the brain's effort to protect thus survive, the cascade of alterations stemming from adverse childhood experiences and trauma can undermine typical prefrontal development due to the brain's preference for biological safety and security (Perry, 2006, p.38).

### **3.6.1. Sensitive Periods**

Teicher and colleagues (2008) highlighted the significance of sensitive periods within brain maturation and development (Teicher, Dumont, Ito, Vaituzis, Giedd, & Andersen, 2008). These researchers found females who had experienced sexual abuse between the ages of 3 and 5 exhibited reduced hippocampal volume, whereas females at age 9 to 14 years exhibited dysfunctionality in the corpus callosum and prefrontal cortex regions of the brain (Teicher et al., 2018). A study conducted with neglected children revealed specific impairments in language, memory, learning, attentional control, and other executive functions when controlling for IQ (De Bellis et al., 2009). In the same vein, other researchers have demonstrated that children who spent their early years of childhood in institutions were at risk of experiencing impairments in language, reduced intellectual capability, psychomotor difficulties, and reduced cognitive ability compared to non-institutionalized peers (Cohen, Lojkasek, Zadeh, Pugliese, & Kiefer, 2008; Rutter & O'Connor, 2004; Van Den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2010). Kirke-Smith et al. (2014) investigated whether adolescents exposed to maltreatment have deficits in executive functioning in comparison to a group of non-maltreated adolescents. These researchers revealed maltreated

adolescents had significantly diminished performance than their non-maltreated counterparts on working memory tasks, fluency, and inhibitory control. These findings lend weight to the theory that impairments in executive function may be the reason why adolescents with maltreatment histories struggle to cope both inside and outside the classroom (Kirke-Smith, Henry, & Messer, 2014).

Recently, researchers have summarised conceptual models that attempt to explain how adversity impacts the developing brain (Gabard-Durnam & McLaughlin, 2019). These models implicate various aspects of adversity (e.g., timing, duration, type, number) or place focus on how individual-level traits mediate or moderate the effect of adversity experience (Dunn et al., 2019; Evans, Li, & Whipple, 2013; McLaughlin, Sheridan, & Lambert, 2014). The conceptual models implicate both environmental experience and the resultant neurobiological mechanisms involved (Nelson & Gabard-Durnam, 2020). Most of the models predict neural mechanisms that are experience-dependent; meaning that processes that facilitate life-long learning without biological constraints such as synaptic pruning (Black, Jones, Nelson, & Greenough, 1998, p.35; Greenough, Black, & Wallace, 2008). Others propose sensitive and critical period models that depend on experience-expectant mechanisms that facilitate the biological embedding of neural activity related to stimuli from the environment that is expected (e.g., linguistic input) during optimal developmental windows of heightened plasticity (Nelson & Gabard-Durnam, 2020). These neurobiological mechanisms have apparent consequences for trauma-impacted children and young people (Nelson & Gabard-Durnam, 2020). For example, adversity that occurs during sensitive or critical periods of experience-expectant development, is more likely to have significant, detrimental effects on neuronal functionality throughout the lifespan (Nelson & Gabard-Durnam, 2020).

Even though the terms sensitive and critical periods are often used interchangeably, they do represent distinct concepts. It is argued that the *sensitive period* is more of an overarching term used to explain the impact of experience has on the brain during constricted windows of time (Knudsen, 2004). If the necessary experience essential to cortical development does not happen within this timeframe (e.g., linguistic input), neurotypical development may be difficult to attain and domain functionality may not fully recover (Knudsen, 2004). Nelson et al. (2019) argue that forming a secure attachment to a caregiver in the early years of life may reflect a sensitive period (Nelson, Zeanah, & Fox, 2019). Crucially, it has been suggested that if plasticity occurs *beyond* a sensitive period, it will be restricted by what occurred *during* a sensitive period; meaning attempts to reprogramme the default neuronal network will be limited (Knudsen, 2004). If there is no residual plasticity following the experience-expectant window then this period is classified as a *critical period* (Nelson et al., 2019). Therefore, critical periods which are absent of expected experience result in lifetime changes in brain functionality thus behaviour (Knudsen, 2004; Nelson & Gabard-Durnam, 2020).

It should be stated, however, that there is more than one critical or sensitive period, rather, ongoing critical and sensitive periods for different neuronal networks and specialization phenomena, for example, language acquisition (Nelson & Gabard-Durnam, 2020). Werker and colleagues (2015) suggest that even within specific domains of brain maturation there will be numerous sensitive and critical periods (Werker & Hensch, 2015). These authors suggest multiple critical and sensitive periods across sensory, cognitive, and affective domains in the first few years of life. Adversity experienced during this timeframe may have significant, deleterious effects (Werker & Hensch, 2015).

### **3.6.2. Adolescent Sensitive Periods**

Neuroimaging studies have demonstrated that the brain maturation process extends throughout adolescence, the stage of life that begins with the onset of puberty (Blakemore,

2012). The pattern of white matter volume and integration increases from childhood into adolescence and adulthood (Fuhrmann, Knoll, & Blakemore, 2015). White matter increases suggest increased myelination (Gibson et al., 2014). Myelin increases signal conduction velocity (Morell & Quarles, 1999). On the other hand, grey matter volume increases from infancy into childhood then decreases throughout adolescence and adulthood. Several factors lead to this decrease in grey matter during adolescence, including increased levels of white matter impinging on grey matter (Tamnes, Østby, Fjell, Westlye, Due-Tønnessen, & Walhovd, 2010), synaptic pruning (Giedd et al., 1999), and a reduction in glia (Mills & Tamnes, 2014). These changes in white and grey matter during adolescence is associated with observed alterations in cognition such as an increased ability to apply abstract thought and reasoning (Piaget, Grize, Szeminska, & Bang, 1977). Recent studies utilising imaging techniques have suggested that growth in white matter during adolescence is associated with improvements in IQ (Schmithorst, Wilke, Dardzinski, & Holland, 2005) and working memory (Østby, Tamnes, Fjell, & Walhovd, 2011). Correspondingly, reduced grey matter was also associated with improvements in working memory, problem-solving, planning, and learning during adolescence (Tamnes et al., 2013). Social cognition also undergoes significant changes during this period, including considerable maturation of perspective-taking skills (Sebastion et al., 2012) and face processing (Kadosh, Johnson, Henson, Dick, & Blakemore, 2013).

This reorganisation of brain structures and cognition during the period of adolescence has led to the suggestion that adolescence is a sensitive period of brain maturation (Blakemore & Mills, 2014). This suggestion has led to the proposition that the period of adolescence heightens neuronal plasticity, leaving adolescent development particularly susceptible to environmental stimuli (Fuhrmann et al., 2015). One such environment adolescence is particularly susceptible to is the social environment, especially to the influence of their peer

groups (Fuhrmann et al., 2015). For example, adolescents may be influenced by their peers to partake in risk-taking behaviours such as drug use, and/or whether to apply themselves academically (Mounts & Steinberg, 1995). Stress stemming from social exclusion has a significant impact on adolescents (Sebastian, Viding, Williams, & Blakemore, 2010), and peer victimization and the absence of social support has particularly deleterious effects on mental health (Rigby, 2020). Therefore, high quality social support/interaction during adolescence offers a window of opportunity for cognitive development and can be seen as a responsibility for education (Immordino-Yang, Darling-Hammond, & Krone, 2019).

Other psychosocial stress exposure during adolescence can also trigger mental ill-health such as internalising symptoms (anxiety, depression) and externalising problems (conduct disorder, hyperactivity; Granger, 1998). Psychosocial stress includes various events such as an absence of adequate caregiving, economic deprivation, and maltreatment (Nelson & Gabard-Durnam, 2020). Substantial research indicates associations between psychosocial stress and a plethora of developmental outcomes. For example, behaviourally, the accumulation of stressful experiences has been associated with deficits in learning and memory implicated in academic failure (Anda et al., 2006; Nelson, 2007). Relatedly, cumulative stress from adversity may be associated with abnormal socio-emotional development and increased risk of psychopathology such as internalising symptoms (anxiety, depression) and externalising problems (conduct disorder, hyperactivity; (Colvert et al., 2008; Humphreys et al., 2015). Numerous behavioural problems appear to be mediated by various brain adaptations, such as expanded/diminished cortical volume (Luby, Barch, Whalen, Tillman, & Belden, 2017), expanded/diminished cortical thinning (McLaughlin, Sheridan, & Lambert, 2014), white matter (Daniels, Lamke, Gaebler, Walter, & Scheel, 2013), and increased or decreased brain activity (Vanderwert, Marshall, Nelson, Zeanah, & Fox, 2010). Additionally, lower levels of caregiver interactions whether in high economic deprived

households or not, contribute to reduced opportunities for learning by altering cognitive development and emotional processing mechanisms that influence psychopathology (Amso & Scerif, 2015).

### **3.6.3. Emotional Processing Mechanisms**

Altered patterns of emotional processing following childhood adversity include heightened emotional reactivity, poorer emotional awareness, and emotional dysregulation (McLaughlin, Colich, Rodman, & Weissman, 2020). Consequently, trauma-impacted youth display a pattern of emotional responding illustrated by hypervigilance and heightened emotional reactivity to threats in the environment (McLaughlin, Colich, Rodman, & Weissman, 2020). Additionally, trauma-impacted youth display altered patterns of learning about threats in the environment and often have difficulty distinguishing cues that predict threat or safety (McLaughlin et al., 2016). Furthermore, trauma-impacted youth display difficulties in identifying and regulating their emotions (McLaughlin et al., 2020). Recent research found that childhood adversity and trauma is associated with poorer emotional awareness; an inability to recognise and differentiate their emotions (Weissman et al., 2020). This susceptibility for poorer emotional awareness may contribute to emotional dysregulation that has been consistently detected among this cohort (McLaughlin et al., 2020). For example, these youth are significantly more likely to report maladaptive strategies to regulate their emotions such as rumination, impulsiveness, and the suppression of emotions (Heleniak, Jenness, Vander Stoep, McCauley, & McLaughlin, 2016). Useful emotional regulation strategies like cognitive reappraisal to dampen emotional reactivity have been shown to be effective in youth who have not experienced trauma, however, studies have shown that these children recruit the prefrontal cortex to a greater extent than those with trauma histories (McLaughlin, Peverill, Gold, Alves, & Sheridan, 2015). Using strategies such as cognitive

reappraisal for trauma-impacted youth may prove more difficult as it requires greater cognitive resources (McLaughlin et al., 2020).

These patterns of heightened emotional reactivity, poorer emotional awareness, and emotional dysregulation that are common among trauma-impacted youth are strongly associated with various forms of psychopathology (McLaughlin et al., 2020). Heightened emotional reactivity is associated with psychopathology across several studies (Heleniak et al., 2016; McLaughlin, Kubzansky, Dunn, Waldinger, Vaillant, & Koenen, 2010; Weissman, Bitran, Miller, Schaefer, Sheridan, & McLaughlin, 2019). Other studies have implicated poorer emotional awareness as a mediator of general psychopathology (i.e., p-factor; Weissman et al., 2020). Likewise, emotional dysregulation is associated with all types of psychopathologies and predict the onset of internalising and externalising problems (Berking, & Wupperman, 2012), along with being implicated in comorbidity between disorders (Messman-Moore & Bhuptani, 2017).

### **3.7. Effects of Trauma Exposure**

The effects of trauma exposure on the developing brain can persist throughout the life course (Coleman, 2019; Romeo, 2013). Traumatic experience can lead to posttraumatic stress symptoms and often to the comorbidity of anxiety and depression, however, adolescents experiencing more toxic, complex trauma can develop more pervasive symptoms of developmental trauma disorder (DTD; Bessel & Kolk, 2005). Symptoms of DTD include dissociation, physical and somatic illness, relational problems in the home, school, and wider community, non-suicidal self-harm, suicidal ideation/completion, misconduct, and unemployment. A myriad of impediments to academic success has been reported in schools (Perfect, Turley, Carlson, Yohanna, & Saint-Gilles, 2016). These entail a lack of attention, problems in executive functioning, learning difficulties, and relationship problems. These

impediments often lead to school drop-out. Barron et al (2017) suggest that the DTD rate for these adolescents may be as high as ninety percent (Barron, Mitchell, & Yule, 2017).

Within the secondary school setting, the debilitating effects of trauma exposure can be extensive and devastating. Trauma-impacted students may have a combination of difficulties ranging from attentional and concentration problems, poor organisational skills, to school truancy and poor grade attainment, to classroom misconduct which can lead to suspension and expulsion (Brunzell et al., 2016a; Cole et al., 2005). Adolescents who have experienced toxic stress or trauma often experience difficulties in the realm of education.

### **3.7.1. Understanding the Impact of Trauma in Schools**

Many trauma-impacted students may be displaying internalising and externalising symptoms, such as conduct problems, peer problems, hyperactivity, and emotional problems as well as dissociative behaviours or tendencies to withdraw in the classroom (West, Day, Somers, & Baroni, 2014). Problematic behaviour or emotional dysregulation can arise as the trauma-impacted student is faced with a perceived or actual threat, or through difficult relationships between the student, family, community, and within the school environment (Schiff & BarGil, 2004).

When students show signs of conduct problems, they increasingly come into conflict with their teachers (Fazel, Hoagwood, Stephan, & Ford, 2014). This conflict may arise from the teachers' limited understanding of the impact trauma has on student behaviours and learning capacities (Gray, Wilcox, & Nordstokke, 2017). Indeed, it is possible that some neurodivergent young people such as those with a diagnoses of attention deficit hyperactive disorder (ADHD) may experience conflict with teaching staff who are unaware of how to respond to their needs in a classroom environment. With limited understanding of their trauma-impacted students and other neurodivergent students and the lack of skills in de-

escalating their behaviour, teachers may unintentionally reinforce these behaviours serving to exacerbate student stress in the classroom (Osher et al., 2008). Compounding these problems, studies have shown that many teachers attend school with their own unresolved trauma histories and are at risk of experiencing re-traumatisation resulting from student conduct problems (Alisic, 2012).

Moreover, teachers with high levels of stress in the classroom are more likely to resort to punitive discipline to arrest students' misconduct (Kim, Crooks, Bax, & Shokoohi, 2021). These negative cycles of misconduct, punishment, followed by further misconduct seem to heighten stress for both teachers and students alike within the classroom (Kim et al., 2021; Osher et al., 2008). This form of stress manifesting from student misconduct and teacher ineffectiveness is central to teachers' experience of burnout and reasons for leaving the profession (Fazel et al., 2014; Sullivan, Johnson, Owens, & Conway, 2014).

Due to the pain and trauma inflicted on youth by those who hold power (parents, authority figures), trauma-impacted youth are often low on trust and high on suspicion of those who hold power in their lives and will struggle to form and maintain relationships (Frydman & Mayor, 2017; McInerney & McKlindon, 2014). While these youth have difficulty in reading the cues of others, they will often infer signs of aggression, rejection, or abandonment where they may be none (Wall, 2021). Because these youth come from backgrounds often deprived of a home environment that is rich in the language used to communicate feelings, ideas, and boundaries (Craig, 2008), their expressive language may not have developed fully making emotional connections with peers more difficult. Moreover, with low ability to empathise with others, to take the perspective of others, or respect the boundaries of others, these youth struggle to form relationships that are balanced give and take (Cole, O'Brien, Gadd, Ristuccia, Wallace, & Gregory, 2005, p.28; Frydman & Mayor, 2017; Wolpow et al., 2009).

Trauma-impacted youth may also respond to the slightest stressor because their stress response system is on high alert (Wall, 2021). Responses may take the form of acting out, aggression, defiance, and mood swings (Cole et al., 2005). Conversely, some may respond by zoning out; these dissociative behaviours may include rumination, daydreaming, withdrawal, and disengagement (McInerney & McKlindon, 2014; Oehlberg, 2008).

### **3.7.2. Teacher Secondary Traumatic Stress and Burnout**

Teachers working with trauma-impacted students can experience secondary traumatic stress (STS). This may occur from learning about students' experience of traumatic events, having feelings of empathy towards the student but lacking in the ability to change their situation. Indeed, teachers dealing with and caring for trauma-impacted students and bereaved students can lead to responses in teachers which mirror posttraumatic stress symptoms (Berger, Abu-Raiya, & Benatov, 2016). This occurrence has been referred to as STS or vicarious trauma (Boscarino, Figley, & Adams, 2004; McCann & Pearlman, 1990). STS is characterised as feelings of numbness or detachment, being overwhelmed, hopelessness, fatigued, and disconnectedness (Boscarino et al., 2004).

School personnel are often on the frontline in supporting trauma-impacted youth within their communities. Much of the emphasis of trauma-informed care in schools is placed on child and adolescent mental-health following traumatic or stressful events (Kataoka, Langley, Wong, Baweja, & Stein, 2012). However, there has been a lack of recognition and services for school personnel, such as teachers, school counsellors, and others who may sit down with students and listen to their stories of ongoing traumatic or stressful events (Hydon, Wong, Langley, Stein, & Kataoka, 2015). Even though they do not directly experience these events, school personnel can suffer significant emotional distress which may lead to impaired functioning (Hydon et al., 2015). Within the last few decades, as specialists have been called upon to support school communities following a disaster or similar major distressing event,

the importance of addressing the stress that school personnel endure stemming from caring for their students has been recognised as secondary traumatic stress (STS; Hydon et al., 2015).

However, research indicating that teachers' experience of STS is relatively new, even though there is a wealth of literature on the impact of STS occurring among soldiers and their families (Dekel & Solomon, 2006; Goff, Crow, Reisbig, & Hamilton, 2009), police personnel (Conn & Butterfield, 2013; Perez, Jones, Englert, & Sachau, 2010), health care workers (Beck, 2011; Berger & Gelkopf, 2011), social workers (Cornille, & Meyers, 1999; Wagaman, Geiger, Shockley, & Segal, 2015), and emergency responders (Hyman, 2004; Roden-Foreman, Bennett, Rainey, Garrett, Powers & Warren, 2017).

STS is defined as “the natural consequent behaviours and emotions resulting from knowing about a traumatising event experienced by a significant other – the stress resulting from helping or wanting to help a traumatised or suffering person” (Figley, 1983, p.6). Figley suggested that the secondary stress reactions suffered may be described as the empathy that caregivers may experience when a loved one experiences trauma. Figley concluded that “We too become victims because of our emotional connection with the victimised family member” (Figley, 1983, p.19). Over a decade later, Figley conceptualised compassion fatigue as synonymous with STS, with similar symptoms associated with PTSD which primarily occurs within the helping professions assisting victims of trauma (Figley & Kleber, 1995, p.80). Indeed, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; 2013) acknowledges that stress leading to symptoms of PTSD can include stressors that are not directly experienced, such as repeated or extreme secondary exposure to adverse events usually occurring during professional practice (e.g., first responders; professionals repeatedly exposed to harrowing details of child abuse). STS symptom clusters that overlap with those listed in the DSM-5 criteria for PTSD include intrusive symptoms, avoidance, negative

thoughts, low mood, and hyperarousal and reactivity (DSM-5; 2013). The difference between PTSD and STS is that the traumatised individual may develop PTSD, whereas the individual hearing about the trauma may develop STS (Jenkins & Baird, 2002).

While STS and compassion fatigue are considered synonymous with similar symptom criteria, one additional criterion often examined along with STS is burnout (Jenkins & Baird, 2002). Burnout was included in the theoretical base primarily to capture the exhaustion characteristic of secondary trauma that represents the depletion of energy associated with delivering continuing support to the trauma-impacted victims (Figley & Kleber, 1995). Burnout typically involves prolonged occupational exposure to difficult interpersonal relationships, long hours, and high caseloads, and is not explicitly associated with direct or secondary trauma (Schauben & Frazier, 1995; Sprang, Craig, & Clark, 2011).

### ***3.8. Trauma-informed Care***

Research in the disciplines of mental health and medicine, along with the lived experience and needs of trauma-impacted youth, informed practitioners how service organisations could adapt to better serve their trauma-impacted clients through changes in policy, procedures, and practices (SAMHSA, 2014). These changes are what now is termed “trauma-informed care” and are endorsed and championed at the national and international level. Trauma-informed approaches have been adopted in many public service organisations including mental health and child welfare services and have been recognised as an approach that can improve young peoples’ psychological functioning within the educational sector (Thomas et al., 2019).

Research into implementing trauma-informed care strategies in the child and youth services is an area of academia that is new but expanding rapidly, thus the landscape of the related research literature is not well established (Lowenthal, 2020). The term ‘trauma-informed care’ was first coined by Harris and Fallot (2001) in their seminal theoretical anthology

“Using Trauma Theory to Design Service Systems” (Harris & Fallot, 2001). Other highly prominent theoretical writings include the “Attachment, Regulation, and Competency” (ARC) framework manual (Blaustein & Kinniburgh, 2010), the “Sanctuary Model” manual (Bloom & Farragher, 2013), the “Healthy Environments and Response to Trauma in Schools” model (HEARTS; Dorado, Martinez, McArthur, & Leibovitz, 2016), the New Haven Trauma Coalition (NHTC; Perry & Daniels, 2016) the Trust-Based Relational Intervention (Purvis, Cross, & Pennings, 2009) and the Heart of Teaching and Learning (HTL): Compassion, Resiliency, and Academic Success Model (Compassionate Schools model; (Wolpow et al., 2009).

Harris and Fallot (2001) describe being trauma-informed as meaning two specific yet different things. First, to be trauma-informed means to have knowledge of the history of trauma, abuse, or stress that the person/client has experienced in their life. Information on the individual’s trauma history permits more holistic and integrated treatment protocols. Second, to be trauma-informed implies understanding the role that trauma, abuse, or stress play in the lives of most individuals involved in accessing mental health supports and applying that knowledge and understanding to service design which adapts to and accommodates for the vulnerabilities of those who have experienced trauma. Within a trauma-informed system, trauma, abuse, and other stressors are not perceived as one-off singular events but rather a defining and organising experience that shapes the core of an individual’s identity (Harris & Fallot, 2001).

The individual creates a sense of self, others, and the world around them based on the traumatic or stressful events experienced. This experience gives rise to meaning which may dictate life pathways and lead to the development of coping behaviours and strategies. In this way, the influence of traumatic experience is felt throughout the whole life of the person including in areas of functioning that are seemingly unrelated to the traumatic experience or

stressful event (Harris & Fallot, 2001). Placing emphasis on understanding the whole person and acknowledging the context in which that person is living their life is considered as a trauma-informed approach. Rather than inquiring about the person's symptoms, the trauma-informed practitioner asks, "How do I understand this person?" (Harris & Fallot, 2001). This shift in focus towards the person and away from some individual symptom being presented sends a clear message that the person's life can be understood and that their functioning and behaviours make sense as part of the context of the whole person (Harris & Fallot, 2001).

Advocates eager to implement trauma-informed practice reflect the growing consensus surrounding the reasons why trauma-informed practice should be embraced. However, there is scant evidence pertaining to the creation of trauma-informed organisational and systems change (Hanson & Lang, 2016; Purtle, 2020). Hanson and Lang (2016) describe trauma-informed practice as "...an amorphous concept that has been defined in a number of ways, making it difficult to evaluate trauma-informed initiatives" (Hanson & Lang, 2016, p.96). SAMHSA (2014) defines trauma-informed organisations as "...realises the widespread impact of trauma and understands potential paths for recovery; **recognising** the signs and symptoms of trauma in clients, families, staff, and others involved within the system; and **responds** by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively **resist** re-traumatisation" (SAMHSA, 2014, p.9).

### **3.8.1. Social Support**

Trauma-impacted youth are more likely to experience difficulties in forming and maintaining healthy relationships (Kim & Cicchetti, 2010). Evidently, fostering social support in opposition to the development of psychopathology following stressful events may be of great consequence in this cohort as social support is a recognised protective factor (Cohen & Wills, 1985). Indeed, studies suggest that young people who perceive high levels of social support exhibit lower levels of both internalising and externalising behaviours and tend to engage in

more help-seeking behaviours following stressors (Rockhill, Vander Stoep, McCauley, & Katon, 2009). Importantly, perceived social support is a protective factor that mitigates against the onset and progression of adolescent psychopathology following stressful and traumatic events (Brewin, Andrews, & Valentine, 2000).

A particular pertinent protector against the onset and progression of adolescent psychopathology following stressors is caregiver support (McLaughlin et al., 2020). Studies suggest that when caregiver support is present it can dampen the conditioned fear response that is common in trauma-impacted youth (McLaughlin et al., 2020). Caregiver support is associated with lower amygdala reactivity, greater neuronal connectivity of the prefrontal cortex and the amygdala, and greater discernment of cues related to threat and safety during aversive learning (Van Rooij et al., 2017). Therefore, social buffering of threat-level processing may be a significant pathway through which social support can lessen the risk for adolescent psychopathology (Hostinar, Sullivan, & Gunnar, 2014; McLaughlin, 2020).

### **3.8.2. Resilience**

Resilience is characterised by the ability to adapt successfully in the face of stress and trauma that threaten the development of a positive life course, or the capacity of biological systems to return to equilibrium following periods of adversity (Zolkoski & Bullock, 2012). Early research assumed resilience as an innate trait that individuals either possessed or did not (Masten, 2001). More recent research suggests that resilience can be influenced by genetic factors, environmental resources, and attitudes and skills that are learned at various stages of development and is now understood as a basic competency that can be developed and bolstered (Blanch et al., 2014). Furthermore, Masten and Barnes (2018) make the argument that resilience is not a trait, though individual differences in personality or cognitive abilities contribute to adaptative functionality (Masten & Barnes, 2018). Numerous family and social characteristics influence resilience including close attachment bonds to a caregiver, effective

parenting, positive relationships with peers, effective teachers, family cohesion, and social support all protect children and young people in multiple ways that are not located in the child (Masten & Barnes, 2018). Furthermore, community factors such as living in a safe neighbourhood, feelings of belongingness in school, and access to health services, all boost resilience in children (Zolkoski & Bullock, 2012).

Knowledge surrounding the mechanisms that generate individual resilience is crucial to developing promotive and preventive interventions (Blanch et al., 2014). Even though resilience can be enhanced by individual characteristics such as problem-solving and emotional regulation skills it can be impaired by experiences (Blanch et al., 2014). Adversity can derail the normal development of key regulatory systems and protective systems for resilience (Masten & Barnes, 2018). For example, turbulent and chaotic environments can derail the development of self-regulation involved in learning (Vernon-Feagans, Willoughby, & Garrett-Peters, 2016). Post-natal depression may interfere and disrupt close attachment bonds between mother and baby, in turn, interrupting social interactions such as *serve and return* that play a crucial role in normative development (Shonkoff et al., 2012).

The likelihood of experiencing toxic stress and adversity at some point throughout the life course is high, however, most individuals will overcome the experience and will not develop physical, psychological, or social problems (Rutter, 2007). Moreover, an ever-increasing body of literature points to the positive psychological adaptations that can occur following a traumatic or stressful event. The positive adaptations following stressors are known as post-traumatic growth, stress-related growth, or thriving (Blanch, Shern, & Steverman, 2014). This phenomenon occurs when exposure to stressors is limited with opportunity for recovery leading to a toughening effect (Dienstbier, 1989). This effect allows individuals to appraise situations as more manageable, to approach situations with more emotional control, and to increase levels of coping skills in the face of a stressor relative to non-toughened individuals.

(Dienstbier, 1989). This is somewhat consistent with the treatment plan for anxiety where individuals are gradually exposed to a feared situation learning to become more unresponsive and less sensitive with each exposure (Mineka & Zinbarg, 2006). In contrast, high, persistent levels of stress exposure and adversity are more likely to overwhelm the individual's capacity to return to a calm state, thereby disrupting the opportunity to gain toughness which facilitates resilience (Seery, Holman, & Silver, 2010).

Research around resilience suggests that there are sensitive periods or windows of opportunity for developing and boosting resilience through interventions (Seery et al., 2010). These sensitive periods reflect times of increased brain plasticity in development which can be imposed on the individual through adversity, transitions, or times of great upheaval (Seery et al., 2010). For example, preschool children go through a period of rapid transformation and development of neural, behavioural, and social systems that prepare them for school (Seery et al., 2010). Executive function skills develop rapidly during this window and can predict future success at school (Zelazo & Carlson, 2012). However, children from backgrounds of deprivation, abuse, and family dysfunction often lag in executive function skills because normative development is disrupted by toxic stress exposure during these periods of high plasticity (Diamond, 2012). The periods of transition from childhood to adolescence and adolescence to adulthood are also suggested as windows of opportunity. These periods of rapid brain development represent opportunities for children and young people to get back on track and find their way back to more successful outcomes (Masten, 2015). Interventions to enhance executive control systems that support emotional regulation, motivation, and planning during these periods are key to assisting individuals to regain more positive direction in their lives (Masten, 2015).

### **3.8.3. Social and Emotional Learning**

Healthy social and emotional development refers to a child's ability to experience, regulate, and express both positive and negative emotions, develop close relationships with their peers and adults and, actively engage with their environment and learn (Jee et al., 2010). There is a growing concern and awareness within educational research that emotional and social development deficits can impact learning (Hamilton, Doss, & Steiner, 2019). An ever-increasing body of research focuses on social-emotional learning (SEL), including self-awareness, accurate self-concept, self-efficacy, self-belief, emotional regulation, motivation, problem-solving, decision making, resilience, hope, social skills including the ability to develop relationships and feel empathy and compassion (Agirkan, & Ergene, 2021; Immordino-Yang, et al., 2019). SEL skills can assist young people to navigate the challenges of growing up and making transitions while buffering against the development of mental ill-health and risky behaviours (Weare, 2015). These skills are related to learning and lead to increased attendance, attainment, and completion at school and are a more significant determinant of academic attainment (leading social determinant of health) than IQ (Public Health England, 2014).

### **3.9. Summary**

ACEs, including abuse, neglect, household dysfunction, deprivation, and other early life stressors, have been associated with long-term health outcomes (Felliti et al., 1998). Toxic stress derived from these experiences has been implicated as contributing to the development of these negative outcomes (Bucci et al., 2016). Multiple factors determine the physiologic response to a stressor such as the duration and severity of the exposure; social, biological, genetic, and developmental factors (Bucci et al., 2016). Prolonged and repeated exposure to the stress response can result in a chronically activated neuroendocrine immune system (Bucci et al., 2016). If exposure to a stressor is buffered by an AAA in a safe and supportive

environment, allostatic processes can return the stress response to equilibrium (Bucci et al., 2016). However, prolonged, and repeated exposure to a stressor in the absence of a supportive environment can dysregulate the neuroendocrine immune circuitry, adapting inhibition and regulation mechanisms resulting in a maladaptive, or toxic, stress response (Bucci et al., 2016). This type of stress response is involved in the production of an excess or deficiency in stress-induces hormones and neurotransmitters that are incorporated into the developing biological systems of the child during sensitive periods of maturation (Bucci et al., 2016). Excessive or deficient production of stress-induced hormones and neurotransmitters result in adaptations that affect multiple organ systems, including brain architecture, and the neuroendocrine immune circuitry (McEwen, 2006). These adaptations place children and young people at risk for poor physical, mental, and behavioural health (Bucci et al., 2016).

It is evident that for children, adolescents, and adults, exposure to toxic stress profoundly impacts biological, psychological, and social systems that can persist throughout the life course. For developing children, toxic stress can lead to learning, language, and memory problems which place these children at a severe disadvantage at school. Academic failure, coupled with emotional regulation problems, can lead to behavioural problems such as conduct problems and addiction. Academic failure can also lead to problems with gaining employment which increases the probability of living in poverty, in turn, increasing stress in adults and their offspring. The negative developmental cascade continues throughout the life course. Additionally, toxic stress increases the risk for impulsivity which may compromise health and social outcomes through the pathway of violence in adulthood. Poor physical, mental, and social outcomes can create conditions for the cycle to be repeated through the next generation (Blanch, Shern, & Steverman, 2014).

Because of this, a range of interested stakeholders including academics (Bunting et al., 2020; McAlister et al., 2013; McKay, Andretta, Cole, & Clarke, 2020; Nolan & Smyth, 2021), political parties (The Ulster Unionist Party, 2016), and advocacy groups (Mental Health Ireland, 2021; Northern Ireland Commissioner for Children and Young People, 2015), has stressed the need to ramp up research into adolescent mental health and mental wellbeing on the island of Ireland. Mental health and mental wellbeing are both distinct yet related constructs, with mental wellbeing being recognised as the positive aspect of mental health (McAneney et al., 2015).

### **3.10. Aims of the Current Research**

The primary aims of this research are presented in three phases. The aims of phase one are (1) to expand on the ACE checklist by examining other stressful events that impact on adolescent psychology (2) to examine the prevalence of self-reported stressful events and associated psychopathology within an adolescent sample in Northern Ireland, (3) to utilise latent class analysis to assess associations between stressful event profiles and subsequent psychopathologic responses, (4) to determine the role of socio-economic area deprivation and its impact on the relationship between adolescent stress profiles and adolescent psychopathology.

The aims of phase two were (5) to synthesise the existing literature to examine whole-school trauma-informed teaching pedagogies and programmes that raise awareness of both traumatic experiences, the emotional, behavioural, and social consequences of exposure as well as identify the most effective way to act in response. Therefore, this narrative review chapter will examine the literature on whole-school trauma-informed practice, analyse the findings, consider similarities and differences between programmes, highlight efficacious programmes, along with the sustainability of practice beyond implementation (6) to determine whether a 2-day professional development training (workshop) in trauma-informed approaches would

change school personnel attitudes related to trauma-informed care post-workshop and if any changes made were maintained at 6-month follow up (7) to determine whether the workshop influenced school personnel levels of compassion fatigue, e.g., burnout, and secondary traumatic stress (STS), and levels of compassion satisfaction (CSAT) at 6-month follow up.

The aims of phase three were (8) to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme called Inner Explorer – audio-guided – 8 mins daily) will increase adolescent subjective happiness, emotional regulation and resilience, and decrease levels of rumination perceived stress and psychopathologic responses in adolescents, (9) to determine whether mindfulness practice increases levels of mental wellbeing, and decreases levels of perceived stress and burnout in teachers, (10) to evaluate whether parental participation in mindfulness practice leads to improved outcomes in their children over and above adolescents who practice without parental participation. Finally, (11) to determine whether student participation in mindfulness practice leads to improved outcomes in comparison to students who do not practice mindfulness (control group).

## **Chapter 4.** Methodology

#### **4.1. Introduction**

The following chapter provides a description of the methodology used to complete the three phases of this thesis. Where applicable, the study design, recruitment, participants, consent processes, measures, Qualtrics, data collection, data storage and confidentiality, data preparation and manipulation, analytic plan, and assumptions of the studies will be described in detail below. As a reminder to the reader, the three phases of this study are represented by three unique datasets. Within this chapter, dataset (1) represents the first phase of the thesis, dataset (2) represents the second phase, and dataset (3) represents the final phase. This chapter describes the methodology of each phase sequentially, beginning with phase one and ending with phase three.

#### **4.2. Phase One Study Design**

Phase one was designed to determine the prevalence rate of adolescent exposure to childhood adversity within a sample of post-primary schools in Northern Ireland. Additionally, the study seeks to identify latent classes or profiles of adolescents with similar exposures of childhood adversities and attempt to understand in what way these profiles are associated with adolescent psychopathologic responses. Furthermore, this study investigates the relationship between area-level deprivation (as denoted by an index of multiple deprivation), childhood adversity profiles, and adolescent psychopathology. As far as the literature suggests, the current study is unique insofar as it was based on self-reported exposure to stressful events in an 11–18-year-old cohort in Northern Ireland. Therefore, it was necessary to adopt a study design appropriate to address these study aims. Subsequently, the study design employed for phase one incorporated secondary analysis of a cross-sectional student survey conducted in four post-primary schools in the North-West region of Northern Ireland.

### **4.3. Participants**

#### **4.3.1. Why Adolescence?**

Adolescence is generally conceptualised as the distinct developmental period between puberty and legal adulthood, usually spanning the ages of 11 – 19 years old (Costello, Copeland, & Angold, 2011). This period of development is marked by a profound and prolonged transformation in cognitive, affective, and self-regulatory abilities which enable the adolescent to apply these skills to an intricate set of social relationships with peers, adults, and societal organisations (Dahl, Allen, Wilbrecht, & Suleiman, 2018). Current global epidemiological data consistently recounts that approximately 20% of children and young people present with mental ill-health during this critical transition period of development (Belfer, 2008).

Recognising the impact of mental ill-health on adolescents can be valuable in two ways. First, it can be advantageous to elicit rates of psychopathology and the explicit societal burden caused by these mental ill-health characteristics at various developmental stages (Murray & Lopez, 1996). This aspect of public health research can assist with the allocation of resources for treatment and prevention strategies. Second, identifying risk factors implicated with adolescent psychopathology can assist with the provision of ideas to ameliorate the onset of anxiety and depression in the form of interventions (Costello et al., 2011). If research-informed policy makers understood more about this period of development, they would be better positioned to implement developmentally sensitive approaches to prevention and treatment models (Costello et al., 2011).

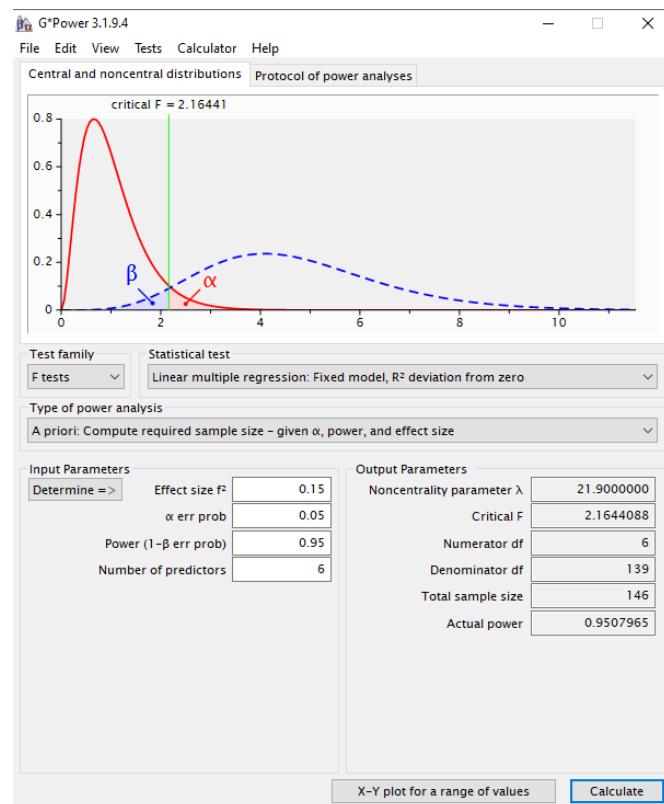
#### **4.3.2. G-Power Calculation**

To determine the minimum number of participants required to ensure that the study was adequately powered, a G-Power calculation was performed (v 3.1; Faul, Erdfelder, Buchner, & Lang, 2009; see Figure 4.1). This entailed setting the required ‘test family’ to ‘F-tests’, as

this particular family of statistical models permits the next step which was choosing ‘Linear Multiple Regression: Fixed model, R<sup>2</sup> deviation from zero’ to be selected as this was the analytic model intended for data analysis. The next step involves specifying the type of power analysis required which was ‘A Priori’ this computed the required sample size. A linear regression model was used with 6 predictors (Age, Gender, Area Stress, and 3 latent profiles) and one outcome variable (Adolescent Psychopathology).

To achieve power of .95 with alpha set at .05 with an effect size set at .15 G-Power estimated that a sample size of 146 was required. Adding 10% for attrition/missing data, the sample required is 160. The results of the G-Power calculation determined the minimum number of participants needed to ensure adequate power of the study.

Figure 4.1. Phase One: G-Power Calculation



### 4.3.3. Participant Demographic Information

The sample consisted of 864 adolescent students. Table 4.1 displays a summary of demographic information. Overall, the mean age of the students  $M=13.65$   $SD = 1.76$ , minimum = 11-year-old and maximum = 18-year-old. According to the sample 8.1% = 11 years; 24.9% = 12 years; 16.9% = 13 years; 17.6% = 14 years; 20.1% = 15 years; 4.3% = 16 years; 5.1% = 17 years and 3% = 18 years. Females accounted for 55.6% of the sample. The sample consisted of 96.3% White; .6% Black; 1.9% Asian; and 1.3% other. Most students lived with both their parents (71.2%), 20.1% lived with one parent; 6.3% lived with one parent and a stepparent/partner; 1% lived with another family member; and 1.4% lived with other. Within the overall sample, 89.6% reported 1 or more stressful event, 46.1% reported 4 or more, with 9.8% reporting 9 or more ( $M=3.94$ ,  $SD= 3.214$ ).

Area stress was calculated by collapsing individual postcodes into small neighbourhood deprivation scores. In NI these neighborhoods are called Super Output Areas (SOAs) with populations around 2000. There are 890 SOAs in NI, with each area designated with an index of multiple deprivation score. Scores are ranked by order, with the most deprived areas (rank 1) to the least deprived areas (rank 890). This study used the index of multiple deprivation rank score as a proxy for family, socio-economic circumstances.

Table 4.1. Frequency of Demographic Characteristics for the Entire Sample (N = 864)

Variable	Frequency	Mean	SD	Min	Max	%
Age		13.65	1.76	11	18	
<i>Gender</i>						
Male	384					44.4
Female	480					55.6
<i>Year Group</i>						
Year 8-10	559					64.7
Year 11-14	305					35.3
<i>Ethnicity</i>						
White	832					96.3
Black	5					.6
Asian	16					1.9
Other	11					1.3
Super Output Area	848	298.00	239.36	3	808	
<i>School</i>						
Grammar	599					69.3
Secondary	265					30.7

#### 4.4. Procedure

##### 4.4.1. Obtaining Ethical Approval

The study utilised an existing cross-sectional data set conducted with  $n = 864$  adolescents recruited from four post-primary schools in Derry, Northern Ireland. This existing data set has been collected in 2013-2014. Ulster University hold the intellectual property rights, and permission was given by Dr. Karen Kirby (Chief Investigator) to re-analyse this data as part of secondary data analysis (see Appendix 1). Ethical approval was previously granted from

Ulster University Research Ethics Committee (REC/12/0322), and this included seeking consent from the participant's parents and adolescent students themselves to utilise the anonymised data for research purposes. To attain ethical approval for the present study an RG1a application (see Appendix 2) was submitted to the Ulster University Psychology ethics filter committee (UUPEFC). Following the UUPEFC meeting where the present study was discussed, the committee suggested a change to the protocol was needed before approval could be given. This change concerned the use of post codes in the analysis as the committee stated that the data should remain anonymous. To alleviate these concerns, all postcodes were recoded into Super Output Areas to ensure anonymity. This required the completion of an additional form (RG3: see Appendix 3) to be submitted to the next filter meeting. Several weeks later correspondence was received, and ethical approval of the study was granted by the UUPEFC, this authorised the commencement of analysis on the dataset.

#### **4.4.2. Measures Used in Analysis**

The previously collected dataset utilised for this study was accessed and downloaded onto a home desktop. Adolescents completed a battery of measures encapsulated within a modified version the Oxford Lifestyle and Coping Questionnaire (Hawton, Rodman, Evans, & Weatherall, 2002) along with completing the Strengths and Difficulties Questionnaire (SDQ) (Goodman & Goodman, 2009).

#### **4.4.3. The Modified Oxford Lifestyle and Coping Questionnaire**

The Oxford Lifestyle and Coping Questionnaire (Hawton, Rodman, Evans, & Weatherall, 2002) survey tool was designed and implemented in several studies in the UK and Europe. The questionnaire was developed following extensive piloting in schools and an adolescent psychiatric unit (see Madge et al., 2008). This collaboration between European States was coordinated in conjunction with the National Childrens' Bureau in London and was referred to as the Child and Adolescent Self-Harm in Europe (CASE) Study (Hawton et al., 2002).

The original CASE study questionnaire included 13 sections. The dataset used for this study derived from a modified version of the CASE study questionnaire where two sections were removed because of the qualitative aspect relating to these sections and one section was added leaving 12 sections in total. The 11 original sections within this modified version included 1) socio-demographic information, 2) health issues, smoking and alcohol and drug use, 3) stressful events and problems checklist, 4) deliberate self-harm, 5) motives for deliberate self-harm, 6) help-seeking and hospital treatment, 7) thoughts of deliberate self-harm, 8) Hospital Anxiety and Depression Scale (HADS), 9) impulsivity, 10) Coping Strategy Scale, and 11) the Self-esteem Scale. The added section in this modified version included the Strength and Difficulties Scale (SDQ; Goodman & Goodman, 2009). For analysis in this study, only sections relating to socio-demographic details, items included in the Stressful Events and Problems Scale, the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), and the Strength and Difficulties Scale (SDQ; Goodman & Goodman, 2009) were used.

#### **4.4.4. Socio-Demographic Details**

This section comprised of questions related to gender (male, female), age (from 11 – 18 years old), ethnicity (White, Black, Asian, other), school type (grammar, secondary); mixed gender, all girls and all boys); and year group (year 8 – year 14). The dataset also contained participants' post code information.

#### **4.4.5. Stressful Events and Problems Scale**

Childhood adversities were determined by analyzing the Stressful Events and Problems scale located in the CASE Study questionnaire (Hawton et al., 2002). This questionnaire included 20 questions relating to stressful life events experienced in the past 12 months and/or more than a year ago (see Appendix 4). For this analysis, these variables were dichotomised as yes,/ no, responses. Sample items include; “*Have you been bullied at school?*”; “*Have your*

*parents separated or divorced?"; "Has anyone forced you to engage in sexual activities against your will?"; "Have your parents any serious arguments or fights?"; "Have you, or anyone from your family had a serious illness or accident?"; "Have you been seriously, physically abused?"; Has someone in your immediate family died?"; "Has anyone among your family or friends completed suicide?"; "Has anyone among your family attempted suicide or deliberately self-harmed?".*

#### **4.4.6. Anxiety and Depression (Hospital Anxiety & Depression Scale)**

Anxiety and depression symptomology were measured using the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). This questionnaire includes two 7-item subscales for anxiety and depression using Likert scaled items. Items for each sub-scale are summed and totals range from 0–21, with higher scores indicating higher levels of anxiety and depression. Sample items include "*I feel tense and wound up*"; "*Worrying thoughts go through my mind*"; and "*I have lost interest in my appearance*". The full list of the 14 items included in this scale are included in Appendix 5. This measure was validated for use with adolescents aged from 11 to 18 years (Eccleston, Crombez, Scotford, Clinch & Connell, 2004; White, Leach, Sims, Atkinson, & Cottrell, 1999). These studies reported that the HADS demonstrated adequate factor structure and test-retest reliability, as well as supporting the metric in its ability to differentiate between adolescents with and without anxiety and depression (Eccleston et al., 2004; White et al., 1999). Within this study the internal consistency coefficient tested using Cronbach's alpha indicated  $\alpha = .82$  for anxiety and  $\alpha = .66$  for depression.

#### **4.4.7. Strength and Difficulties Scale**

The final questionnaire included in the Modified Oxford Lifestyle and Coping Questionnaire (Gillen, Kirby, McBride, McGlinchey, & Rushe, 2019; Hawton et al., 2002) and utilised for the present study was the child self-report Strengths and Difficulties Questionnaire (SDQ;

Goodman, & Goodman, 2009; see Appendix 6). This version of the SDQ was specified for use for children and young people aged between 4 years to 17 years therefore suitable for the adolescents surveyed in this study. This metric can identify adolescents who may be experiencing internalising problems or externalising problems (Becker, Rothenberger, & Sohn, 2015).

The proportion of adolescents in schools reporting internalising and externalising behaviours were measured using the child self-report Strengths and Difficulties Questionnaire (SDQ; Goodman, & Goodman, 2009). The SDQ asks about 25 attributes, some positive and others negative. These 25 items are divided into 5 subscales: (1) Pro-Social; (2) Hyperactivity; (3) Emotional Symptoms; (4) Conduct Problems; and (5) Peer Problems. Total difficulties (Broad Psychopathology) are generated by summing the Emotional Symptoms scale; and the Peer Problems scale (Internalising Behaviours) with the Conduct Problems scale; and the hyperactivity scale (Externalising Behaviours); Each of the subscale scores range from 0 – 10, the range of total difficulties was the aggregated sum of Hyperactivity, Emotional Symptoms, Conduct Problems, and Peer problem scales ranging from 0-40; higher scores on the total difficulties sub-scales reflect higher levels of difficulties experienced. Total strengths are generated by summing the prosocial sub-scale; (range 0-10), with higher scores reflecting higher levels of strengths experienced. Sample items include “I worry a lot”; I have one good friend or more”; “I get very angry and often lose my temper”; “I think before I do things”; and I am often accused of lying and cheating”. Therefore, this measure was included in this study to ascertain whether stressful events experienced by adolescents impacted on psychopathology. The scale has shown moderate test-retest reliability and strong internal consistency (Yao et al., 2009). Within the current study the internal consistency coefficient tested using Cronbach’s alpha - Total difficulties (Broad Psychopathology;  $\alpha = .82$ ) was calculated by adding the scores for externalising behaviours (i.e., Hyperactivity and Conduct

Problems;  $\alpha = .75$ ) and internalising behaviours (i.e., Emotional Symptoms and Peer Problems;  $\alpha = .78$ ), with higher scores on each scale indicating higher levels of difficulties experienced.

#### **4.4.8. Area Level Deprivation**

Child poverty is associated with a myriad of health concerns, negative educational achievement, and long-term psychological and social problems (Wickham, Anwar, Barr, Law, & Taylor-Robinson, 2016). Indeed, Marryat and Frank (2019), using data from the ‘Growing up in Scotland’ birth cohort study demonstrated that childhood adversities were highly correlated with socioeconomic disadvantage (Marryat & Frank, 2019). Accumulating evidence of the deleterious effects of poverty on adolescent psychopathology is important as it informs targeted screening, prevention, and intervention for individuals and their communities (Lanier, Maguire-Jack, Lombardi, Frey, & Rose, 2018). Therefore, a measure of deprivation was used in this study to determine possible associations between deprivation and mental ill-health in adolescents.

Areas of high and low deprivation were applied to measure possible differences in prevalence levels of anxiety, depression, and adolescent psychopathology according to economic status represented in this sample. Area level deprivation was calculated using individual participant postcode to locate an index of multiple deprivation (IMD) within the 890 super output areas (SOAs) within Northern Ireland (Ninis2.nisra.gov.uk, 2019). The most deprived SOA is ranked 1 and the least deprived is ranked 890. The IMD is further broken down into sub-categories including income deprivation; employment deprivation; health and disability deprivation; education skills and training deprivation; access to services; living environment; crime and disorder; income deprivation affecting children; and income deprivation affecting older people. Ranking for each sub-category also exists and follows the same procedure as

SOAs. However, the present study utilised the IMD score as this score represents the overall mean score of the SOAs.

#### **4.5. Data Preparation**

Following receiving the dataset the file was opened in SPSS (version 23.0, IBM Corporation, 2019) software. Participant postcodes were manually recorded from the data file in single form onto the Northern Ireland Statistics and Research Agency's NI Multiple Deprivation Measures Lookup Tool (NIMDM, 2017). This tool provides a mechanism for ranking postcode cluster areas within NI in the order of the most deprived (1) to the least deprived (890). Within SPSS a new variable was created and named SOA (Super Output Area). Each corresponding rank for postcode cluster area was inputted and the associated postcode was deleted from the dataset.

Next, the items of the Stressful Events and Problems scale were dichotomised to either 'yes' or 'no' to provide analysis of prevalence rates and a total score of events experienced among the sample. Following this, all subscales of the SDQ were summed including total internalising and externalising scores as well as a total score for Broad Psychopathology. The same procedure was applied to obtain total scores for both anxiety and depression. All missing data were assigned a value of "99". Subsequently, a new SPSS file was created comprising of demographic variables and the variables listed above. This new dataset was then converted into an Excel data file for export to Mplus version 8.2 (Muthén & Muthén, 1998 – 2018) for further analysis.

#### **4.6. Analytic Plan**

A brief overview of the statistical analysis employed within each empirical chapter is summarised in each corresponding section below. However, within the relevant empirical chapter, data analysis is discussed in greater depth and detail.

The present study has three key aims. The first aim was to examine the prevalence of self-reported stressful events and associated psychopathology within an adolescent sample in Northern Ireland. The second aim was to utilise latent class analysis to assess associations between stressful event profiles and subsequent psychopathologic responses. Last, the third aim was to determine the role of socio-economic area deprivation and its impact on the relationship between adolescent stress profiles and adolescent psychopathology. This analysis was conducted in Mplus and included the full sample (N = 864).

#### **4.7. Phase Two Study Design**

Phase two was designed to evaluate a whole-school, trauma-informed, two-day professional training workshop, delivered to all school personnel by the Chief Investigator (CI) and her team. The CI was the designated person with overall responsibility and accountability for the design, implementation, and reporting of the study. The workshop comprised of; a) an introduction to trauma-informed compassionate schools programme, b) information on how trauma impacts a child's ability to learn, c) the goals of a trauma-informed compassionate school, d) self-care for teaching staff: an ethical obligation to those who care for others, e) trauma-informed classroom strategies, and f) the importance of community engagement (Wolpow et al., 2009). The current study aimed to determine: (1) whether the workshop in trauma-informed approaches would change school personnel attitudes related to trauma-informed care post-workshop and if any changes were maintained at 6-month follow up. (2) whether the workshop had an effect on school personnel measures of Compassion Satisfaction, and Compassion Fatigue, e.g., Burnout, and Secondary Traumatic Stress (STS), evidenced by significant changes post-workshop and at 6-month follow up.

Subsequently, the study utilised a quasi-experimental wait-list control, pre-post intervention (workshop) design to evaluate the efficacy of a 2-day trauma-informed care workshop in one post-primary school (Oakgrove Integrated College) in Northern Ireland (n=98). Two post-

primary schools in N. Ireland (St. Joseph's Grammar School and Royal School Dungannon) agreed to participate as a waitlist list control group. Wait-list control participants ( $n=118$ ) did not receive the intervention at this time, however, the control schools did receive the intervention digitally (via the internet) due to Covid-19 restrictions in September 2020 (one year later). A waitlist control group is preferable to a control group that receives no intervention as ethically it was considered important not to deny participants access to the 'trauma-informed compassionate schools' workshop (TICS).

Within the trauma-informed literature on whole-school approaches to trauma-informed care, all studies to date had methodology limitations via the lack of a control group (see chapter 6). This gap in the literature offers this study the unique opportunity to evaluate the training of a whole school trauma-informed approach in a post-primary school in N.I. In addressing this gap, the study is one of the first to utilise a control group in the research design to ensure findings are robust.

## **4.8. Participants**

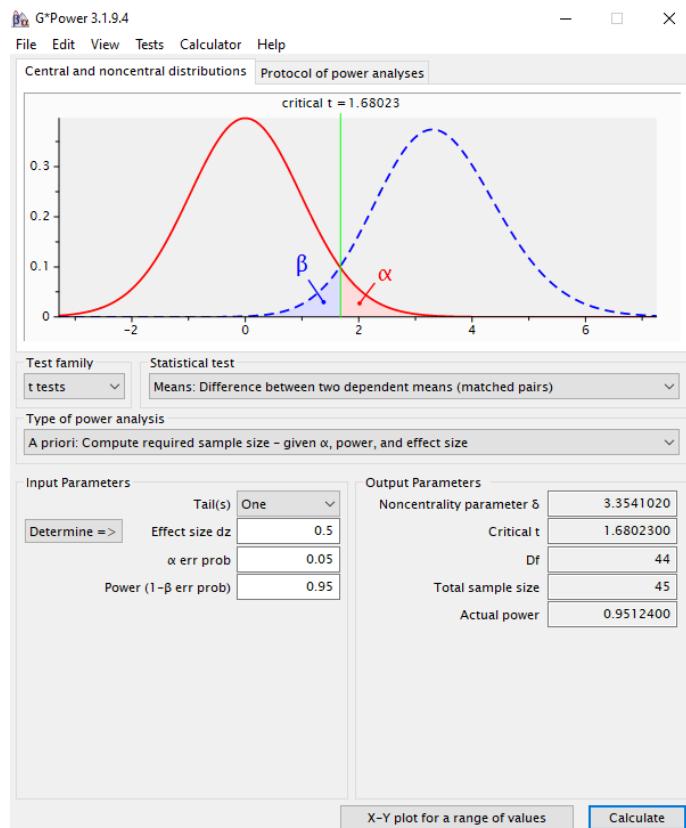
### **4.8.1. Why Educators?**

There is a growing concern related to high teacher attrition with research indicating that 25% of new teachers leave the profession in their first year (Aloe, Amo, & Shanahan, 2014). Specifically, stress resulting from being re-traumatised, being ill-equipped to deal with students' disruptive classroom behaviour, and lack of support systems within schools have been highlighted as major factors leading to teacher burnout and reasons for leaving the profession (Fazel et al., 2014). Therefore, there is an urgent need to intervene to reduce re-traumatising and burnout in school staff, to increase staff understanding and awareness of the impact of trauma on student learning and behaviour and how to mitigate misbehaviour in the classroom, and to implement self-care and community-care strategies to assist school staff in their daily duties.

#### 4.8.2. G-Power Calculation

To determine the minimum number of participants required to ensure that the study was adequately powered, a G-Power calculation was performed (v 3.1; Faul, Erdfelder, Buchner, & Lang, 2009; see Figure 4.2).

Figure 4.2. Phase Two: G-Power Calculation



This entailed setting the required ‘test family’ to ‘*t* tests’, as this particular family of statistical models permits the next step which was choosing ‘Means: Difference between two dependent means (matched pairs)’ to be selected as this was the analytic model intended for data analysis. The next step involves specifying the type of power analysis required which was ‘A Priori’ this computed the required sample size. A paired sample model was used with attendance of the Compassionate Schools training predicting 3 outcomes (Attitudes Related to Trauma-Informed Care, Compassion Satisfaction, Compassion Fatigue). To achieve power of .95 with alpha at .05 with an effect size  $d = .5$ , G-Power estimated that a sample size of 45

is required. Adding 10% for attrition/missing data the sample required is 50. The results of the G-Power calculation determined the minimum number of participants needed to ensure adequate power of the study.

#### **4.8.3. Participant Demographic Information**

The sample consisted of 216 school personnel. Table 4.2 displays a summary of demographic information. The mean age of participants within the intervention sample ( $N = 98$ ) was  $M = 46.55$   $SD = 7.70$ , min = 29 and maximum = 64. Females accounted for 71.4% of the sample. The sample consisted of 90.8% Caucasian. Most participants indicated their role within the school as teaching and learning support (77.6%) with participants indicating having been in the profession for over 15 years (71.4%) and having previously attended trauma-related training (25%). The mean age of participants within the waitlist control group ( $N = 118$ ), was  $M = 41.91$   $SD = 11.02$ , min = 22 and maximum = 66. Females accounted for 72.9% of the sample. The sample consisted of 86.2% Caucasian. Most participants indicated their role within the school as teaching and learning support (78.8%) with half of the participants indicating having been in the profession for over 15 years (51.7%) and having previously attended trauma-related training (13.6%).

Table 4.2. Frequency of Demographic Characteristics for the Entire Sample (N = 216)

	n	Min	Max	M (SD)
Age	216	22	66	44.01 (9.91)
Intervention	98	29	64	46.55 (7.70)
Control	118	22	66	41.91 (11.02)
		<b>Intervention n (%)</b>		<b>Control n (%)</b>
<b>Gender</b>				
Male	55	28 (28.6%)		27 (22.9%)
Female	156	70 (71.4%)		86 (72.9%)
Prefer not to say	5	-		5 (4.2%)
<b>Role</b>				
Administration	24	8 (8.2%)		16 (13.6%)
Facilities	8	6 (6.1%)		2 (1.7%)
Student support	15	8 (8.2%)		7 (5.9%)
Teaching Support	169	76 (77.6%)		93 (78.8%)
<b>Duration</b>				
0-2 years	13	3 (3.1%)		10 (8.5%)
3-7 years	28	6 (6.1%)		22 (18.6%)
8-14 years	44	19 (19.4%)		25 (21.2%)
Over 15 years	131	70 (71.4%)		61 (51.7%)
<b>Any previous training</b>				
Yes	32	21 (21.4%)		11(9.3%)
No	132	63 (64.3%)		69 (58.5%)
Missing	52	14 (14.3%)		38 (32.2%)
<b>Ethnicity</b>				
Caucasian	189	89 (90.8%)		100 (84.6%)
Asian	1	1 (1%)		-
Other	12	3 (3.1%)		9 (7.7%)
Prefer not to say	12	5 (5.1%)		9 (7.7%)

## **4.9. Procedure**

### **4.9.1. Obtaining Ethical Approval**

Ethical approval was sought in accordance with research governance regulations at Ulster University on studies involving human participants. Due to time constraints, ethical approval was not sought from the Ulster University Psychology Ethics Filter Committee (UUPEFC) as the UUPEFC did not sit in the summer months of 2018. Consequently, ethical approval was sought from the School of Applied Social and Policy Sciences Ethics Filter Committee (REC.20.0053).

In order to fulfil the requirements of the ethical application procedure, several documents were advanced for consideration. (1) Application to undertake research on human subjects (RG1a form; see Appendix 7), (2) Research Protocol (21 Pages). The first area to consider was to confirm whether the research was on human participants (RG1a), and an ethical approval checklist was required to ensure all evidence and paperwork sought by Ulster University were completed and provided. The RG1a form provides a detailed account comprising an in-depth discussion of the study protocol. This discussion included the research aims and objectives, study relevance, methodology inclusive of details of participants, an analytic plan, and how issues regarding confidentiality and data protection were addressed.

Following this, a further RG6 application (see Appendix 8) was submitted as amendments to the study were sought from the research team. These included the addition of a waitlist control group and the addition of a qualitative study utilising two (2) focus group interviews with school staff. The addition of an approval letter from the waitlist control school (Appendix 9) indicating consent to be involved in the study was also submitted. Finally, a peer report (RG2; see Appendix 10) was also submitted. This report ensured that an

independent member of academic staff within Ulster University had reviewed the study without bias. The RG3 for study approval was received on 19<sup>th</sup> July 2019 (see Appendix 10).

#### **4.9.2. Recruitment for Quantitative Study**

Recruitment of the experimental school stemmed from the relationship built by the Chief Investigator (CI) and the school principal from previous implementation of interventions to decrease feelings of hopelessness in younger students within the school. Notwithstanding the success of this intervention, the school still reported experiencing high levels of suspensions and expulsions of students, and staff were unsure about how to intervene. The CI arranged several meetings between the research team and the school principal and the mental health lead within the school. These meetings involved a detailed discussion surrounding the needs of the school, what the proposed professional development model consisted of and how it would be delivered, why school-based data were needed, what the model could achieve, and what was required from the school to participate in the study. A week later, several follow-up emails were sent directly to the school principal to secure the dates of both training days.

Two post-primary schools in N.I (Mid-Ulster region) consented to participate as the waitlist list control group. These schools, with similar demographics to the experimental group, indicated struggling with the rising levels of mental health issues amongst their students and were aware that some pupils had significant social problems. They were approached by the Chief Investigator (CI) and asked to participate in the study. Both control schools were invited to participate to ensure adequate matching participant numbers.

Prior to the commencement of the workshop, all participants in both the experimental group (n=98) and waitlist control group (n=118) received an information pack containing a participant information sheet (PIS; see Appendix 11) outlining the purpose of the study and a consent form to sign (see Appendix 12). Participation was voluntary, and individuals were

aware they could withdraw from the study at any point without consequences from their employer. In the case of withdrawal from the study, the research team agreed not to retain any previous collected data from the withdrawn participant in line with Data Protection legislation.

Within the PIS participants were advised if they experienced psychological distress as a result of participation in the survey to contact Lifeline, Samaritans, or the Employee Assistance Programme which is included in the staff care policy in their school.

#### **4.9.3. Recruitment for Qualitative Study**

The combined use of quantitative and focus group data permitted a deeper and more comprehensive understanding of several aspects of the phenomenon of interest (Gill, Stewart, Treasure, & Chadwick, 2008; Lambert & Loiselle, 2008). The mixed methods approach was chosen to give voice to teaching staff and to ensure quantitative findings were grounded in participants' experiences. Focus group participants were recruited through the existing network of contacts within the experimental school and were carried out on-site during working hours. While this limited the length of each focus group interview, it also ensured school staff would attend as it did not encroach on their free time (Flynn, Albrecht, & Scott, 2018). Recruitment began with several emails to the principal of the school asking for a firm date and time to allow the researchers into the school to conduct the interviews. Within these emails, the researcher asked the school principal to allow staff to come forward and volunteer to take part. The principal sent an email to all school personnel inviting them to participate. A maximum of twenty participants were required as this number would be split into an even ten for each focus group. Once the quota of twenty was filled the researcher asked the principal via email to stop recruitment. Since it was the principal of the experimental school who recruited participants to take part in the focus groups, it was therefore not possible to ascertain how many school personnel received an invitation, how many people declined to

participate, and how many people wanted to participate but could not because of the timing of interviews or a failure to get released from other classroom duties. Consent to participate in the focus groups had already been achieved through the initial consent form signed before the trauma-informed training programme.

#### **4.9.4. Whole School Professional Development Workshop**

The workshop comprised of dissemination of psychoeducation about the nature and impact of trauma along with the nature and impact of compassion through the principles and domains of the Compassionate Schools (CS) approach. *The Heart of Learning and Teaching Handbook* (Wolpow et al., 2009) was utilised in this study as the main instructional material. The handbook module content presented in the workshop comprised of; a) an introduction to trauma-informed compassionate schools programme, b) information on how trauma impacts a child's ability to learn, c) the goals of a trauma-informed compassionate school, d) self-care for teaching staff: an ethical obligation to those who care for others, e) trauma-informed classroom strategies, and f) the importance of community engagement. The Chief Investigator assisted by the research team adapted and consolidated the materials into PowerPoint presentations which were delivered by the research team over two training days.

In addition, the presentation explored the nature and impact of compassion and how behavioural displays of compassion may be a protective factor impacting on student resilience. The scientific and theoretical foundation for Compassionate Schools (CS) is found within the increasing volume of literature on trauma and complex trauma. CS aims to improve social and emotional learning and academic skills of students while simultaneously increasing well-being within the staff (Hertel, Frausto, & Harrington, 2009). Teacher compassion equates to feelings of empathy and respect for students who experienced trauma and adversity and the intention to alleviate pain and foster healing (Axelson, 2017).

Similar to other models, CS included management consultation comprised of several meetings and culminated in a strategy to modify and adopt the schools' student behaviour management policy, procedures, and practices of the school system towards trauma-informed approaches. Management consultation remained ongoing for one full academic year. The Chief Investigator worked alongside Dr Siobhan Browne – Consultant Clinical Psychologist, and Mrs. Marie Dunn – Resilio: Hope Embassador, to provide several supportive and guidance consultations with the principal and the pastoral care staff. These consultations helped guide staff on how to engage their community supports to help individual students who were known to the school as having experienced adversity in their home and in need of additional compassionate focused care. The support team consisted of psychologists, social workers, staff from Start 360, and staff from a local charity called Resilio. In all cases, confidentiality was maintained, no details of the child's identity were revealed to university staff, and child protection policies were adhered to very carefully. Referrals to social services were made as and when necessary. All research governance procedures were acted upon stringently.

#### **4.10. Measures Used in Analysis**

##### **4.10.1. Attitudes Related to Trauma-informed Care Scale**

Within the intervention group, participants' attitudes related to trauma were measured at three time-points pre-training (time 1), immediately post-training (time 2), and at 6-month follow up (time 3) using the 35 item Attitudes Related to Trauma-Informed Care scale (ARTIC-35; Baker, Brown, Wilcox, Overstreet, & Arora, 2016: see Appendix 13). Within the waitlist control group, participants completed the ARTIC-35 at time 1 and time 3 only. This psychometric test was designed for use in schools before implementing trauma-informed interventions. The scale can be used to measure the readiness of a school to implement trauma-informed practice, any barriers present, and attitudinal change following the

intervention. The ARTIC includes a series of self-reported Likert items scaled from 1 to 7 across five sub-scales including; 1) underlying causes of problem behaviour and symptoms - with a sample item – *Students are doing the best they can with the skills they have*; 2) responses to problem behaviour and symptoms – with a sample item – *Students need to experience real-life consequences in order to function in the real world*; 3) on-the job behaviour – with a sample item - *Being upset doesn't mean that students will hurt others* ; 4) self-efficacy at work – with a sample item -*Each day is uniquely stressful in this job*; and 5) reactions to work - with a sample item – *When I feel myself “taking my work home,” it's best to bring it up with my colleagues and/or supervisor(s)*, with higher scores reflecting more positive attitudes towards developing trauma-informed practice. Baker et al (2016) established support for the psychometric properties of the measure. In particular, the ARTIC scale showed strong internal consistency ( $\alpha = .91$ ) providing evidence of a reliable measure of individual differences in attitudes related to trauma-informed care, and strong test-retest reliability with correlations of .77 over a 6-month duration. In this study, the overall scale demonstrated good internal consistency  $\alpha = .87$  (time 1) and  $\alpha = .92$  (time 3).

#### **4.10.2. Professional Quality of Life Assessment**

Data were collected to measure compassion satisfaction (CSAT) and compassion fatigue (i.e., burnout and secondary traumatic stress) using the Professional Quality of Life Assessment (ProQol; Stamm, 2010; see Appendix 14) at pre-workshop (time 1) and at 6-month follow up (time 3). The ProQol is a quality of life that people feel and attribute to their work (Yadollahi et al, 2016). Influenced by both positive and negative affect of helping others who have experienced trauma, the ProQol measures Compassion satisfaction and compassion fatigue. CSAT relates to the pleasure derived from being able to do your work well. Compassion fatigue was split into two parts – behavioural burnout, represented by exhaustion, frustration, anger, and depression, and – secondary traumatic stress (STS), represented by negative

feelings driven by fear and work-related trauma (Stamm, 2010). Employing 30 self-report Likert items, scaled from 0 to 5 with 0 = never to 5 = very often, the ProQol is split into three subscales of ten items each addressing dimensions of CSAT – with a sample item, *I feel invigorated after working with those I [help]*; STS – with a sample item, *I find it difficult to separate my personal life from my life as a [helper]*; and behavioural burnout – with a sample item, *I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help]*. Scale validity was calculated from data from over 200,000 participants across the globe (Stamm, 2010). In this study, the 3 subscales demonstrated good internal consistency with Cronbach's alpha values in the range (.74 - .89) at time 1 and (.74 - .88) at time 3.

#### **4.11. Focus Groups**

Seventeen members (71% female; missing = 3) of teaching staff including pastoral care staff of a local post-primary school were interviewed using a semi-structured framework. Focus group interviews were carried out in two sittings of over an hour length each for both practical reasons, and to encourage shared reflections on their experiences following the professional development training in Compassionate Schools (CS) (Wolpow et al., 2009). The questions in the semi-structured focus group interviews were unrestrictive and oriented towards a specified research question. Participants were recruited through a purposive sampling technique and interviews were carried out on-site in a separate meeting room.

All participants were informed that they would be referred to by pseudonyms in all accounts of the analysis to protect their anonymity. The interview schedule was devised to explore participants' attitudes, feelings, and related behavioural change following the CS workshop. Participants were asked how they felt about work-related changes following training, barriers related to implementing the framework, self-care, and suggestions on how to improve the training. Participants were instructed to talk openly and at length on each topic. Focus group

interviews were recorded using an iPad video and audio app along with an audio recording device on an android mobile phone app as backup. Interviews were transcribed verbatim onto MS Word by the researcher.

#### **4.12. Data Collection**

The pre-workshop survey consisted of participants (n=216) completing a series of demographic items, compassion satisfaction (CSAT) and compassion fatigue measures as well as the 35-item version of the Attitudes Related to Trauma-Informed Care scale (ARTIC) (see measures section). Figure 4.3 below displays a summary of data collection and time points. Written instruction for completion was printed on each questionnaire, and participants were also given verbal instruction by the research team. To ensure confidentiality staff were asked to provide a unique identifier which was the last four digits of their mobile phone. Demographic information such as age, gender, ethnicity, staff role, duration within the profession, and any previous trauma training was also collected. Immediately following the 2-day workshop, school personnel participating within the intervention group were surveyed again (post-intervention training: time 2) to determine any attitudinal changes post workshop (n=75). Finally, both the intervention group and control group were surveyed once more at 6-months follow up (time 3) to determine the extent of attitudinal change or maintenance over time (n=65).

A short description of the procedure surrounding data collection is as follows: On the morning of the professional development training, participants were handed a paper-based survey and instruction was given by the researcher to complete before training began. Similarly, and a day before training, the paper-based survey was delivered to the control schools with instructions for completion within 21 days. Then, immediately following the second day of professional development which took place 7 days after the initial training on trauma-informed care with the experimental group the researcher again collected the paper-

based surveys. Next, after a 3 week period from the first training day, the researcher collected completed surveys from the control schools. Lastly, after a period of 6 months, the researcher sent paper-based surveys to both the experimental group and the control group. To ensure participation the researcher corresponded with the principals of each participating school via email and telephone in the weeks leading up to the time 3 data collection. The principals sent an email to all school personnel who had participated in the study to encourage adequate response rates. A deadline of 21 days was issued for completion of the survey. After this period the researcher visited the participating schools and collected the paper-based time 3 surveys.

Figure 4.3: Design and Data Collection Time Points

<b>Data Collection Time Points</b>				
Intervention Group	*Time 1	Get TICS	**Time 2	***Time 3
Waitlist Control Group	*Time 1	N/A	N/A	***Time 3 Get TICS
*Baseline/Pre-intervention = Time 1 (before TICS)				
**Post-intervention = Time 2 (immediately after TICS)				
***Six-month follow up = Time 3				
<b>Analysis Plan</b>				
Compare intervention group using Time 1, Time 2, and Time 3 data				
Compare waitlist control group using Time 1 and Time 3 data				
Compare both the intervention with the control group using Time 1 and Time 3 only				

All data collected were stored in a locked filing cabinet and in line with Ulster University's' policy on data retention and storage, GDPR and data protection legislation (Data Protection Act 1998 and Data Protection Act 2018).

#### **4.12.1. Data Collection for the Focus Groups**

Seventeen members (71% female) of teaching staff including pastoral care staff within the intervention school were interviewed by the Chief Investigator (Dr Karen Kirby) and the researcher (Justin MacLochlainn). All participants were informed that they would be referred to by pseudonyms in all accounts of analysis to protect their anonymity. Participants were instructed to talk openly and at length on each topic. Focus group interviews were recorded using an iPad video/audio app along with an audio recording device on an android mobile phone app as a backup. Interviews were then transcribed verbatim onto MS Word.

#### **4.12.2. Data Preparation**

Following the collection of the paper-based surveys from the experimental and control schools at time 1, time 2, and time 3, the researcher transferred the survey data onto a password-protected file using SPSS software (Version 23.0 IBM Corporation, 2019). To ensure data accuracy, pre-analysis was conducted to assess any missing data and extreme values within the dataset. Missing data were assigned a value of “99” consistently throughout the dataset. Within the ARTIC scale, some items were reversed scored and the mean for each of the subscales namely, Underlying Causes of Problem Behaviour and Symptoms, Responses to Problem Behaviour and Symptoms, On-the-Job Behaviour, Self-efficacy at Work, Reactions to the Work and the overall total scale score were determined. A similar procedure was used to recode the ProQol scale and subscales including Compassion Satisfaction, Burnout, and Secondary Traumatic Stress, the subscales were summed according to the scale’s scoring instructions. Consequently, data were examined for outliers using stem and leaf plots, tests of normality were examined using Shapiro-Wilk’s Test, Q-Q plots, and by exploring skewness and kurtosis values, homogeneity of variance was accessed using Levene’s Test for Equal Variances.

#### **4.13. Analytic Plan**

A summary of the statistical analysis utilised within this empirical chapter is summarised below.

The overall objective of the study was to introduce staff to whole school trauma-informed practices within the school to support vulnerable young people and to aid in the wellbeing of staff. Therefore, the aims of the current study were to determine: (1) whether a 2-day professional development training (workshop) in trauma-informed approaches would change school personnel attitudes related to trauma-informed care post-workshop and if any changes were maintained at 6-month follow up, (2) whether the workshop had an effect on school personnel measures of compassion fatigue, e.g., burnout, and secondary traumatic stress (STS), and levels of compassion satisfaction (CSAT) at 6-month follow up. This analysis was conducted with the sample ( $N = 216$ ) using SPSS software and will be discussed in greater depth and detail within the relevant empirical chapter.

Analysis of focus group data followed reflective thematic analysis based on Braun and Clarke's six phase framework (2006). The data were derived from semi-structured interviews, where the interview schedule was designed to explore school personnel understanding of childhood trauma, work-related changes following training, personal growth, perceived barriers to implementation, self-care, and suggestions to improve training. This analysis was conducted with 17 school personnel belonging to the experimental group and will be discussed in greater detail in the relevant empirical chapter.

#### **4.14. Phase Three Study Design**

Phase three was designed to determine whether an internet-based mindfulness programme (Inner Explorer) delivered to adolescents in a classroom environment would help students manage their stress and emotions, in turn, increasing the likelihood of better mental health

and well-being. Additionally, as teachers implement the programme in their form class by playing the mindful lessons over speakers, they may also decide to practise along with the students or in their own time. Previous research has suggested this to be beneficial to teacher well-being. This study set out to determine whether teachers practising mindfulness would help them manage their work-related stress, therefore minimising the likelihood of occupational burnout while improving well-being. The present study was undertaken within the experimental school from phase two of this thesis.

It is important to note here and make clear that the audio-guided mindfulness-based intervention (MBI) was delivered as part of the school plan. The intervention proceeded regardless of the proposed study design; thus, the school principal assumed ownership and responsibility for programme delivery. The principal and her team informed the parents of the mindfulness programme being implemented in the school as part of the pastoral care initiative to support students on their return to school in September 2020 following restrictions stemming from the arrival of Covid-19. The researcher and his supervisory team did not seek parental consent for their child to participate in the MBI as this was going to happen as part of this new school initiative. The ethics application below was submitted to ensure the researcher had approval to gather data to research evaluate the MBI programme. For the sake of this study design, the school principal agreed to deliver the MBI to half of the school's classes in term 1 and the other half in term 2. This simultaneously helped her to manage staff and school resources and suited the study design. See below a breakdown of the design, participants, measures and procedure for data collection and analysis.

The aims of the current study were (1) to determine whether a mindfulness-based intervention increases adolescent emotional regulation and resilience, and decreases levels of rumination, perceived stress and psychopathologic responses, (2) to determine whether mindfulness practice increases levels of mental wellbeing, and decreases levels of perceived

stress and burnout in teachers, and (3) to evaluate whether parental participation in mindfulness practice leads to improved outcomes in their children over and above adolescents who practice without parental participation, and (4) to determine whether student participation in mindfulness practice leads to improved outcomes in comparison to students who do not practice mindfulness (waitlist control group). Subsequently, the study utilised a quasi-experimental wait-list control pre-post intervention design to determine the efficacy of an audio-guided, trauma-informed mindfulness-based intervention (MBI) programme designed for adolescents in the classroom.

As alluded to in the aims above, the effectiveness of the intervention was assessed by the extent of any reduction in aspects related to emotional dysregulation, rumination, perceived stress, anxiety, and depression, and increases in happiness and resilience among students. The intervention ran in two waves. In the first wave, approximately 50% of students practised the MBI from September 2020 to February 2021 (active group). In the second wave, the remaining 50% of students practised the MBI from February 2021-June 2021 (waitlist control group). All consenting students were asked to complete a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave intervention), and again in June 2021 (time 3: three-month follow-up for first wave group, and end of the second wave control group)]. Fidelity was assessed at time 2 for the intervention group and at time 3 for the waitlist control group by asking students how often they practised, from not at all to full participation.

To address the second aim the study employed a pre-post intervention design to determine the efficacy of an audio-guided, trauma-informed mindfulness-based intervention (MBI) programme on participating teaching staff. The effectiveness of the intervention was determined by the reduction in aspects related to perceived stress and burnout and improvements in mental well-being. All consenting teachers were encouraged to practise in

the first wave of the MBI. Teaching staff were asked to complete a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave intervention), and again in June 2021 (time 3: three-month follow-up)].

## **4.15. Participants**

### **4.15.1. Why Adolescent Students**

Children and young people experiencing socio-economic deprivation and/or experiencing childhood adversity, without an always available adult present to act as a buffer, are at risk of experiencing toxic stress (Costello & Lawler, 2014; Graham & Easterbrooks, 2000; Shonkoff et al., 2012). This type of stress is associated with social-emotional difficulties and related adolescent psychopathologies such as anxiety and depression, hopelessness, concentration difficulties, learning difficulties, emotional and behavioural problems in school, and health-compromising behaviours (Bellis, Hughes, Leckenby, Perkins, & Lowey, 2016; Costello & Lawler, 2014; Hair, Hanson, Wolfe, and Pollack, 2015; Holt, Buckley, & Whelan, 2008; West, Denton, & Reaney, 2001). Recently, neuroscience has evidenced that toxic stress alters neural circuitry underpinning both cognitive control and emotional processing contributing to the onset of psychopathology (Duffy, McLaughlin, & Green, 2018). In fact, many of these young people experience prolonged and persistent levels of the stress hormone cortisol which may lead to cell death and atrophy in the hippocampal region of the brain associated with working memory and emotional regulation (McEwen, 2003). As such, adolescents frequently report maladaptive cognitive and behavioural strategies as a vehicle to cope with difficult and distressing emotions and situations, such strategies may include rumination, self-blame, aggression, and drug and alcohol abuse (Ellis, Del Giudice, & Shirtcliff, 2013; Price & Hooven, 2018; Schulz & Vogegele, 2015; Taylor, Way, & Seeman, 2011). However, increasing the capacity of executive functions to better self-regulate psychophysiological input, and to

regulate the stress response is seen as both, a major protective factor, and a powerful predictor of positive health outcomes (Moffitt et al., 2011; Noble et al., 2015).

Executive functions involving working memory, inhibitory control, and cognitive flexibility, operate within the pre-frontal cortex and are the foundational keys to build greater cognitive capacity and self-regulation (Duffy et al., 2018). Interventions targeting the improvement of executive functions work through a process of neuroplasticity and neurogenesis (Cramer et al., 2011). Neuroplasticity implies that the brain can reprogramme itself through a myriad of functional inputs, including environmental and physical stimuli, relationships, emotions, thoughts, beliefs, experiences, and meta-cognition – what the brain thinks of itself (Cramer et al., 2011). Neuroplasticity is the capacity of the brain to rewire neuronal architecture by building new circuitry and connections between brain cells (Cramer et al., 2011).

A critical developmental period for building strong foundational brain architecture is in school-aged youth (Duffy et al., 2018). Introducing skills that build solid foundational brain architecture during optimal windows of neurogenesis and brain plasticity in childhood and adolescence can generate remarkable results (Ismail, Fatemi, & Johnston, 2017). Executive function skills help to regulate emotions in the face of an emotional trigger and help the student to decide on an appropriate response to any incoming challenging stimuli (Raver & Blair, 2016). For example, inhibitory control allows the student to pause between stimulus and response, not just reacting to emotional upsetting circumstances, and working memory empowers them to remember information on how to respond effectively, while cognitive flexibility enables the student to have empathy for another's perspective and accept responsibility for their part in a conflict (McCormack & Feeney, 2015). According to research, executive function, and the prosocial behaviours they foster, are more accurate predictors of good mental health and life success than IQ (Weare, 2010). Therefore, interventions focusing on developing executive function skills may rebalance the playing

field by improving outcomes for all students irrespective of socio-economic status and/or exposure to toxic stress (Jacob & Parkinson, 2015).

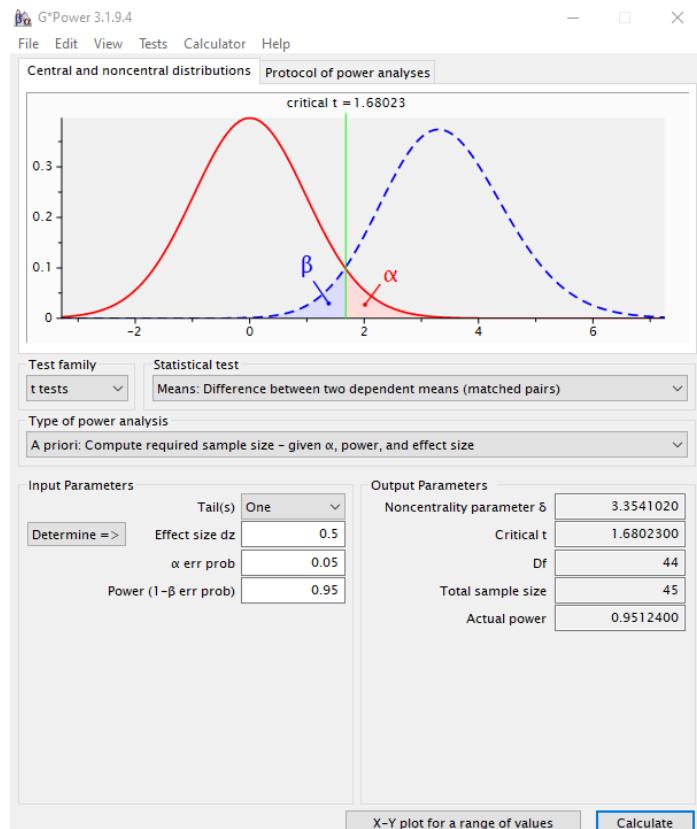
Strategies that counter the effects of toxic stress should be an essential element of the school curriculum as adolescents may increase self-regulatory skills, in turn, bolstering coping resources, which lend as a buffer against concurrent and future psychological difficulties (Klatt, Browne, Harpster, & Case-Smith, 2012). Further, increasing EF capacity may be financial beneficial over time as it may decrease the need for expensive special education, decrease societal costs stemming from dysregulated anti-social behaviour, and decrease the diagnosis of EF disorders such as, attention deficit hyperactive disorder (ADHD) and conduct disorder (Diamond, 2013). Students in the classroom present with symptoms that include relationship difficulties, dysregulated emotions, anxiety and depression symptoms, and deficits in cognitive capabilities (Frydan & Mayor, 2017).

#### **4.15.2. G-Power Calculation for the Student Study**

To determine the minimum number of participants required to ensure that the study was adequately powered, a G-Power calculation was performed (v 3.1; Faul, Erdfelder, Buchner, & Lang, 2009; see Figure 4.4). This involved setting the required ‘test family’ to ‘*t* tests’, as this particular family of statistical models permits the next step which was choosing ‘Means: Difference between two dependent means (matched pairs)’ to be selected as this was the analytic model intended for data analysis. The next step involves specifying the type of power analysis required which was ‘A Priori’ this computed the required sample size. A paired sample model was used to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme) increased adolescent emotional regulation and resilience, and decrease levels of rumination, perceived stress and psychopathologic responses in adolescents. To achieve power of .95 with alpha at .05 with an effect size  $d= 0.5$ , G-Power estimated that a sample size of 45 was required.

Adding 10% for attrition/missing data the sample required was 50. The results of the G-Power calculation determined the minimum number of participants needed to ensure adequate power of the study.

Figure 4.4. Phase Three: G-Power Calculation (Students)

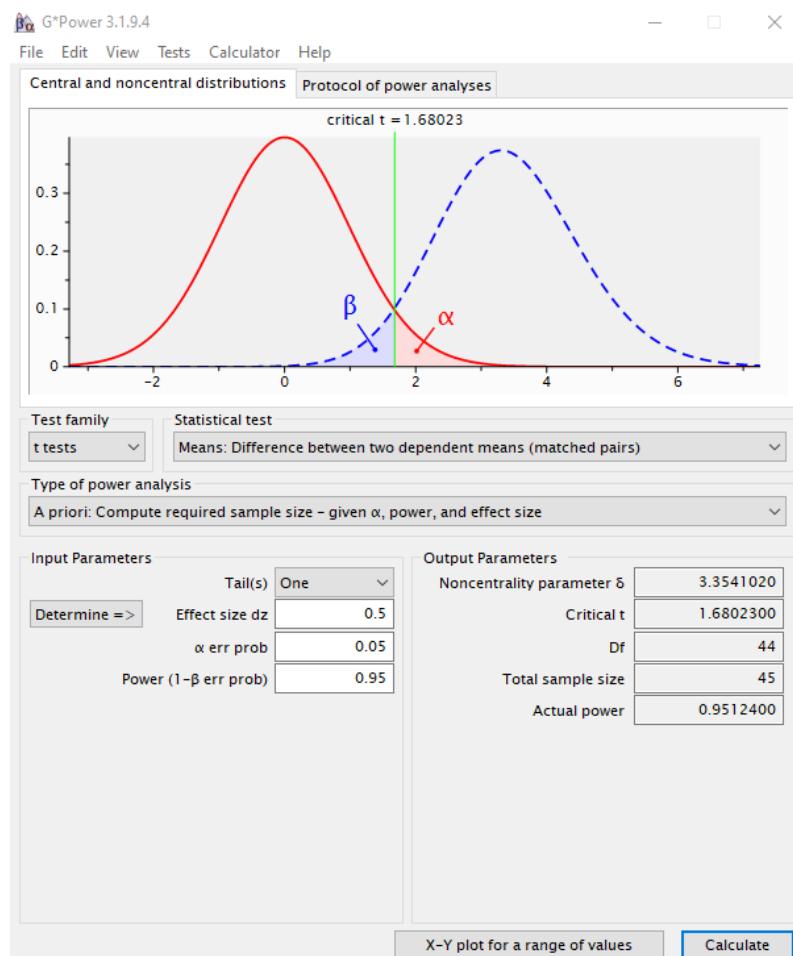


#### 4.15.3. G-Power Calculation for the Teaching Staff Study

To determine the minimum number of participants required to ensure that the study was adequately powered, a G-Power calculation was performed (v 3.1; Faul, Erdfelder, Buchner, & Lang, 2009; see Figure 4.5). This entailed setting the required ‘test family’ to ‘*t* tests’, as this particular family of statistical models permits the next step which was choosing ‘Means: Difference between two dependent means (matched pairs)’ to be selected as this was the analytic model intended for data analysis. The next step involves specifying the type of power analysis required which was ‘A Priori’ this computed the required sample size. A paired sample model was used to determine whether mindfulness practice increases levels of

mental wellbeing and decreases levels of perceived stress and burnout in teachers. To achieve power of .95 with alpha at .05 with an effect size  $d= 0.5$ , G-Power estimates that a sample size of 45 is required. Adding 10% for attrition/missing data the sample is required is 50. The results of the G-Power calculation determined the minimum number of participants needed to ensure adequate power of the study. The G-Power calculation was an important step to ensure the study had sufficient participants recruited to go forward with analysis.

Figure 4.5. Phase Three: G-Power Calculation (Teachers)



#### **4.15.4. Participant Demographic Information**

Descriptive statistics provided the analyst with percentages of males and females within the study, mean age of participants, ethnicity, year groups, how often mindfulness was practised, and a rating of mindfulness experience. The age of participants within the intervention group ranged from 11 to 17 ( $M = 15.59$ ,  $SD = 1.65$ ), and 12 to 18 ( $M = 15.79$ ,  $SD = 1.42$ ) within the control group. Females accounted for 63.6% of the intervention group, and 50% of the control group. The intervention group consisted of 90.9% White, whereas the control group consisted of 78.6% White. Most participants (86.5%) belonged to the year 12 and up within the intervention group, with similar numbers (92.9%) representing these year groups within the control group.

### **4.16. Procedure**

#### **4.16.1. Obtaining Ethical Approval**

In line with Ulster University regulations on research governance, conducting research with children under the age of 18 necessitates obtaining ethical approval first from the Ulster University Psychology ethics filter committee (UUPEFC) and then submitting to the Ulster University ethics committee (UUREC) for approval. To secure ethical approval to evaluate the mindfulness intervention based in the experimental school from phase two of this thesis, a detailed ethical application was submitted to the UUPEFC and following revisions, the application was sent to UUREC for approval.

To obtain ethical approval, several documents were included in the application, (1) RG1a form (see Appendix 15), (2) RG2 form (see Appendix 16) and (3) a detailed Research Protocol (13 pages). The RG1a comprised a detailed proposal where the logistics of the study were considered in depth. In addition, the RG1a included background to the project, aims of the project, procedures to be used, statistical techniques employed (including participant detail), an analytic plan, and how issues surrounding safeguarding, confidentiality, and data

protection have been addressed. Furthermore, the RG1a included the parent information sheet and consent form (Appendix 17 – 18), teacher information sheet and consent form (Appendix 19 – 20), student information sheet and assent form (Appendix 21 – 22), and copies of the measures used within the surveys were also required. Next, the project was peer reviewed following submission of a peer report form (RG2). The peer review was conducted by two unbiased members of the academic staff within Ulster University. This ensured an independent review of the proposed study, whether the study protocol provided the necessary documentation and evidence needed for a UUREC submission, and that the study was sufficiently planned and demonstrated an actual need to conduct the study within the proposed sample included in the study. These documents were submitted to the UUPEFC for consideration. As the UUPEFC meet monthly it was important to ensure that all documentation was presented at this meeting, any missing documentation would have caused the project to stall by up to 6 weeks (McGlinchey, 2019).

Following the UUPEFC meeting where the present study was discussed, further amendments were required by the applicant to address suggested changes and concerns of the committee. These minor changes and subsequent concerns were sent to the researcher and his supervisor via email in the following week from the meeting. Working in tandem, the researcher and his supervisor addressed each concern and made all necessary changes to the protocol that **were** required by the committee. The revised application was then resubmitted to the UUPEFC for review. The revised application was subsequently passed by the committee and was recommended that the proposal be sent on to the next stage of the ethics process, namely the UUREC. This process comprised of an additional form (RG3), and a comprehensive CV from the chief investigator Dr Karen Kirby.

Following the UUREC meeting, the researcher received correspondence indicating some minor changes and concerns about the present study. Once more, and in tandem with his

supervisor, the researcher amended the application to address these concerns deemed appropriate by UUREC and resubmitted the protocol for review. The revised application was passed by the committee and approval of the study was obtained allowing the recruitment process to begin (Project Number: REC/20/0053).

#### **4.17. Recruitment**

##### **4.17.1. Student Recruitment**

In order to attain parental/caregiver consent for the collection of data, several meetings were held with the school principal along with the year heads. At these meetings, the chief investigator/PhD researcher was informed of the number of students within each form class and within each year group (see table 4.4) for a breakdown of the typical structure of post-primary schools in N. Ireland). Recruitment to enable data collection began with the distribution of the full parental information pack, and consent form that was sent out to parents/caregivers of students within the school. Parental/caregiver consent was sought as student participants were under the age of 18. An opt-in approach (active consent) was used, and this implies that all participating parent(s)/caregiver(s) had to sign and return the consent form to enable the study to collect data from their child. Strict adherence to an active consent methodology was expected in accordance with Ulster University research policy (McGlinchey, 2019).

Each parental consent form was signed and returned via email to the school office within a specified timeframe. The consent form required the parent/caregiver to indicate their child's name and the form class they belong to. This facilitated easy administration of students into their respective form class. The process began with the researcher ensuring that the principal received a digital copy of the parental information pack via email. The principal was instructed to then collate a list of parents'/caregivers' emails and send out the information

pack via batch email. Returning emails were then collated by a member of the school technical team and forwarded to the researcher by email.

Table 4.3. Age Range of Student within each year group

Student Age Range (Years)	Year Group
11 – 12	Year 8
12 – 13	Year 9
13 – 14	Year 10
14 – 15	Year 11
15 – 16	Year 12
16 - 17	Year 13
17 – 18	Year 14

From this a list was created, sorted by year group and form class of those students who had parental consent to participate in data collection. In agreement with the school principal, a timetable of each form class lesson was provided to the chief investigator. This lesson was used for personal development and was agreed that this would be the best time for students to complete the survey (pre and post-intervention) without disrupting academic classes (McGlinchey, 2019). To be clear, consented students were to be taken from their form class to the computer suite where the survey took place. Any student who did not acquire parental consent will remain in their respective form class.

#### **4.17.2. Teaching Staff Recruitment**

At the beginning of the new school year and prior to commencement of the mindfulness intervention, all teaching staff received a teacher information pack [teacher information sheet with a link to the Qualtrics survey, and example consent form outlining the study details and consent form to view. The information pack was sent via email by the researcher to the pastoral care member who was delegated by the school principal to take the lead on data collection. This email was then batched and sent to all teaching staff within the school.

Participation was voluntary, and individuals were aware they could withdraw from data collection at any point without consequences from their employer. In the case of withdraw from the study, the research team did not retain any previously collected data from the withdrawn participant.

#### **4.18. Audio-Guided Mindfulness-Based Intervention**

Within the last decade, mindfulness-based interventions have been administered to the adolescent population in respect of both, resilience building and within treatment contexts. Within the context of treating mental ill-health, findings reveal that mindfulness practice can decrease levels of adolescent anxiety and depression (Zoogman, Goldberg, Hoyt, & Miller, 2015), rumination, negative coping, intrusive thoughts, emotional arousal, and stress in interpersonal relationships (Sibinga, Perry-Parrish, Chung, Johnson, Smith, & Ellen, 2013) and substance misuse (Fortuna, Porche, & Padilla, 2018). Similarly, findings suggest that mindfulness interventions build resilience via healthy lifestyle behaviours such as partaking in physical exercise (Salmoirago et al., 2018), increasing working memory capacity (Quach, Mano, & Alexander, 2016), emotional well-being (Galla, Kaiser-Greenland, & Black, 2016), optimism, hope, and prosocial behaviours (Schonert-Reichl & Lawlor, 2010), and life satisfaction, perceived stress, and self-compassion (Bluth, Roberson, & Gaylord, 2015).

One of the key mechanisms underlying mindfulness practice is developing ‘mental breathing space’ between stimulus and response, or in other words, taking pause to reflect before responding to a trigger (Shonin, Van Gordon, & Griffiths, 2013). This mechanism enables the individual to not only observe their thoughts and feelings, but to actively remain unattached to them by relating them to waves in the ocean (Shonin et al., 2013). This greater awareness and non-attachment to thoughts, feelings and sensory processes generates an increased capacity to regulate emotions amid a developmentally challenging phase of the life course (Agarwal & Dixit, 2017).

Given that emerging evidence suggests that technology-based mindfulness-based interventions for school-going adolescents may be as effective as face to face instruction (Bakosh, Mortlock, Querstret, & Morison, 2018; Jayawardene, Lohrmann, Erbe, & Torabi, 2017; Querstret, Cropley, & Fife-Schaw, 2017), implementing MBI's via the internet may be an appealing proposition to those who advocate for adolescent mental health in schools as there would be no need for an expert facilitator, would minimise costs, and require no curriculum changes.

Mindfulness may also be useful to reduce teacher stress. Richards (2012) identified teacher stress as the result of daily frustration with discipline and student classroom behaviour which may lead to feelings of inadequacy, exhaustion, and decreased self-efficacy (Richards, 2012). Secondary traumatic stress impacts teachers both professionally and personally and may lead to increasing levels of stress and burnout. Recent research has identified factors that are strongly linked with teacher stress and burnout. These factors comprise decreased self-efficacy, job satisfaction, lack of administrative support, burnout, and poor teacher-student relationships (Collie, Perry, & Martin, 2017; Richards, 2012). Teacher stress coming from outside the classroom include lack of collaboration with other staff, and lack of parental involvement (Adera & Bullock, 2010; Foley & Murphy, 2015). Teachers practicing mindfulness-based stress reduction (MBSR) showed increased empathy and compassion, increased well-being, better relationships, and more resilience (Lomas, Medina, Ivtzan, Rupprecht, & Eiroa-Orosa, 2017). Researchers demonstrated that MBSR increased teachers' capacity to manage stress and decrease negative reaction to student behaviour (Zarate, Maggin, & Passmore, 2019), improvements in self-efficacy and classroom management skills (Jennings, 2015), better teacher-student relationships, student compliance and increases in student learning (Bakosh et al., 2018; Zarate et al., 2019). Additionally, increases in teacher working memory capacity, self-compassion, attention, along with decreases in burnout,

depression and anxiety symptoms have been observed (Hwang, Bartlett, Greben, & Hand, 2017; Lomas, Medina, Ivtzan, Rupprecht, Hart, & Eiroa-Orosa, 2017; Roeser et al., 2013).

A mindfulness-based social and emotional programme named Inner Explorer (IE) was the programme used by the school. IE is an audio-guided internet-based programme that is plug and play in nature, meaning that the teacher has just got to press the play button and a pre-recorded MP3 mindfulness lesson will be delivered via computer speakers to the classroom. Each IE lesson is less than 10 minutes in duration and one was played daily, reducing the need to alter the classroom curriculum and minimising disruption. The IE programme includes 90 unique mindfulness practices (see Appendix 24) based on Kabat-Zinn's (1982) mindfulness-based stress reduction (MBSR). Corresponding to MBSR, IE teaches awareness of feelings in the body, thoughts, and emotions utilising focus directed attention and open awareness (Goodman, 2019). Listeners practice; 1) breathing and focus-directed practices allowing students to attend to their felt experience, increasing self-awareness; 2) relaxation techniques and being present through the senses, disrupting reactive behaviours while dampening the stress-response system leading to increased self-control; 3) awareness of thoughts and emotions held within the body, creating pause between stimulus and response, enabling responsible decision making; 4) gratitude, kindness, forgiveness and compassionate practices, directed at self and others, connecting students to the larger community (Bakosh et al., 2018). As such, concepts within the 90 practices include, self-awareness, self-control, social awareness, responsible decision making, along with kindness, gratitude, and compassion (Goodman, 2019). Within each 10-minute recording, 2 minutes are left at the end of each lesson to allow students to write in their journals about their experience during that lesson. IE developed age-appropriate curricula for 11-18 year groups.

To enable teachers to launch the programme successfully, a one-hour online training session was delivered by Dr Laura Bakosh (Director of Inner Explorer) prior to the implementation of the programme.

#### **4.19. Qualtrics©**

In order to generate a computer-based survey for the students and teachers, the software package ‘Qualtrics’ was selected. Qualtrics was chosen as it was recognised as one of the best software packages used for online data collection within many universities across the U.K and U.S (Hewson, & Stewart, 2014). Qualtrics© is user friendly, cost effective and offers a range of personalised question types to select from. Furthermore, all online survey data collected using Qualtrics is both, password protected and stored securely on the Qualtrics server in accordance with EU data protection requirements. In relation to how the survey was generated within Qualtrics, each section was composed in the same order of the psychometric scales presented above. Following typing each question and response individually into the software package, each question and the response categories were labelled and coded for ease of transfer to SPSS software. The Ulster University Logo was also incorporated within the survey design. A more detailed account of the use of Qualtrics in this study is provided within the relevant chapter.

#### **4.20. Measures used in Student Study**

##### **4.20.1. Ruminations Response Scale**

All consenting students were asked to complete a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave intervention), and again in June 2021 (time 3: three-month follow-up for first wave group, and end of the second wave control group)]. The study measured rumination via the 22-item Rumination Response Scale (RRS; Nolen-Hoeksema & Morrow, 1991; Treynor, Gonzalez, & Nolen-Hoeksema, 2003; see appendix 25). The RRS was suitable for measuring rumination in

adolescents (Shin, Cho, & Kim, 2015). The RRS measures habitual rumination in response to low mood. The RRS has three subscales. The 12-item depression subscale, the four-item brooding subscale, along with the six-item reflection subscale. Example items related to the subscale of depression include “Think about how alone you feel”. Example items related to the subscale brooding include “Think, why do I always react this way?” Example items related to the subscale reflection include, “Go away by yourself and think about why you feel this way”. Responses are rated on a scale of one (almost never respond in this way) to four (almost always respond in this way). A total rumination score was computed by adding up all items, with a minimum score of 22 and a maximum score of 88 with higher scores indicating higher levels of rumination. Previous studies have shown excellent internal consistency ( $\alpha = .90$ ) with a test-retest correlation of .67. (Treynor et al., 2003). In this study, the overall scale demonstrated good internal consistency ( $\alpha = 0.95$  at time 1 and  $\alpha = 0.93$  at time 2).

#### **4.20.2. Difficulties in Emotion Regulation Scale**

The present study wishes to measure difficulties in emotional regulation via the Difficulties in Emotion Regulation Scale - Short Form (DERS-SF; Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell., 2016; see Appendix 26). The DERS-SF is suitable to measure emotional dysregulation in adolescents (Kaufman et al., 2016). The DERS-SF comprises 18 items rated on a 5-point Likert scale, ranging from 1 to 5. The response categories were, almost never (1), sometimes (2), about half of the time (3), most of the time (4), and almost always (5). The scale consists of statements such as “I pay attention to how I feel”. A total difficulty score was computed by adding up all item scores, such that scores ranged from 18 to 90, with higher scores indicating more difficulties in emotional regulation. The scale consists of six subscales reflecting different aspects of emotional regulation ability. These consist of (1) ‘non-acceptance’, (2) ‘difficulties with goal directed behaviour’, (3) ‘impulse control’, (4) ‘lack of emotional awareness’, (5) ‘lack of clarity’ and (6) ‘limited access to

emotional regulation strategies. Previous studies have shown excellent psychometric properties within adolescent samples, with the alpha coefficient values for both the DERS-SF total scale and six subscales ranging from  $\alpha=.78$  to  $\alpha=.91$  (Kaufman et al, 2016). In this study, the overall scale demonstrated good internal consistency ( $\alpha=0.91$  at time 1 and  $\alpha=0.87$  at time 2).

#### **4.20.3. Perceived Stress Scale**

The present study wishes to measure perceived stress via the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983; see Appendix 27). The PSS is suitable to measure perceived stress in adolescents (Yarcheski & Mahon, 1999). The PSS comprises 10-items rated on a five-point Likert scale ranging from 0 to 4. The response categories were, 'never' (0), 'almost never' (1), 'sometimes' (2), 'fairly often' (3), 'very often' (4). The scale consists of statements such as, 'In the last month, how often have you felt that you were unable to control the important things in your life?'. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. The scale has demonstrated good internal consistency ( $\alpha=.85$ ) and validity through correlations with the impact of stressful life events and depressive symptomology (Cohen et al., 1983). In this study, the overall scale demonstrated good internal consistency ( $\alpha=0.86$  at time 1 and  $\alpha=0.75$  at time 2).

#### **4.20.4. The revised Child and Youth Resilience Measure**

The present study wishes to measure resilience via the revised Child and Youth Resilience Measure (CYRM-R; Jefferies, McGarrigle, & Ungar, 2019; see Appendix 28). The CYRM-R comprises 17 items rated on a five-point Likert scale ranging from 1 to 5. The response categories were, 'not at all' (1), 'a little' (2), 'somewhat' (3), 'quite a bit' (4), 'a lot' (5). The sub-scale personal resilience consists of ten statements such as, 'I know how to behave in different social situations' whereas the sub-scale caregiver resilience consists of seven statements such as, 'My parent(s) caregiver(s) really look out for me'. Individual scores on

the CYRM-R can range from 17 to 85 with higher scores indicating characteristics associated with resilience. The overall scale has demonstrated good internal consistency ( $\alpha = .87$ ), with the personal resilience and caregiver sub-scales demonstrating a Cronbach alpha at  $\alpha = .82$  respectively (Jefferies et al., 2019). In this study the overall scale demonstrated good internal consistency  $\alpha = 0.86$  (time 1) and  $\alpha = 0.83$  (time 2).

#### **4.20.5. The Patient Health Questionnaire**

The present study wishes to measure depressive symptomology via The Patient Health Questionnaire (PHQ-8; Kroenke, Strine, Spitzer, Williams, Berry, & Mokdad, 2009; see Appendix 29). The PHQ-8 is suitable for measuring depression in adolescents (Johnson, Harris, Spitzer, & Williams, 2002). The PHQ8 asks participants to reflect on the past two weeks in their responses which are based on the DSM-5 diagnostic criteria (American Psychiatric Association., 2013; Burdzovic & Brunborg, 2017). The PHQ comprises 8 items rated on a 4-point Likert scale ranging from 0 to 3. The response categories were, ‘not at all’ (0), ‘several days’ (1), ‘more than half the days’ (2), and ‘nearly every day’ (3). The scale consists of statements such as, ‘Feeling down, depressed, or hopeless?’ Each item is summed to produce a total score ranging from 0 to 24, with higher scores indicating greater levels of depression. The overall scale has demonstrated excellent internal reliability in adolescent samples, with a recent study reporting an internal consistency of .89 (Allgaier et al., 2012). In this study, the overall scale demonstrated good internal consistency ( $\alpha = 0.87$  at time 1 and  $\alpha = 0.75$  at time 2).

#### **4.20.6. The Generalised Anxiety Disorder Scale**

The present study wishes to measure anxiety symptomology via The Generalised Anxiety Disorder Scale (GAD-7; Spitzer, Kroenke, Williams & Löwe, 2006; see Appendix 30). The GAD-7 is suitable for measuring anxiety in adolescents (Mossman et al., 2017). The GAD-7 asks participants to reflect on the last two weeks in their responses which are based on the

DSM-IV diagnostic criteria (Castillo et al., 2007). The GAD-7 comprises 7 items rated on a 4-point Likert scale ranging from 0 to 3. The response categories were, ‘not at all’ (0), ‘several days’ (1), ‘more than half the days’ (2), and ‘nearly every day’ (3). The scale consists of statements such as, ‘Not being able to stop or control worrying’. Each item is summed to produce a total score ranging from 0-27 with higher scores indicating greater levels of anxiety. The overall scale has demonstrated excellent internal reliability in adolescent samples, with a recent study reporting an internal consistency of .89 (Daig et al., 2009). In this study, the overall scale demonstrated good internal consistency ( $\alpha = 0.90$  at time 1 and  $\alpha = 0.92$  at time 2).

#### **4.21 Measures used in Teacher Study**

##### **4.21.1 Professional Quality of Life Assessment**

All consenting teachers were encouraged to practise in the first wave of the MBI. Teaching staff were asked to complete a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave intervention), and again in June 2021 (time 3: three-month follow-up)]. The study measured burnout via the Professional quality of life assessment (ProQol; Stamm, 2010; see Appendix 14). The ProQol is a quality that people feel and attribute to their work (Yadollahi et al, 2016). Influenced by both positive and negative affect of helping others who have experienced trauma the ProQol measures compassion satisfaction and compassion fatigue. Compassion satisfaction relates to the pleasure derived from being able to do your work well. Compassion fatigue was split in to two parts – burnout, represented by exhaustion, frustration, anger and depression, and - secondary traumatic stress, represented by negative feelings driven by fear and work-related trauma (Stamm, 2010). Employing 30 self-report Likert items, scaled from 1 to 5 with 1=Never and 5=Very Often, the ProQol is divided into three subscales of ten items each addressing dimensions of compassion satisfaction – with a sample item, ‘I feel invigorated

after working with those I [help]'; compassion fatigue – with a sample item, 'I find it difficult to separate my personal life from my life as a [helper]'; and behavioural burnout – with a sample item, 'I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help]'. Each subscale is summed to produce a total score ranging from 10-50 with higher scores indicating greater levels of burnout. Reliability and validity of the instrument have been previously established (Stamm, 2010, 2010b) with the researcher reporting reliability of the scale ranging from 0.84 to 0.90 on the three subscales and a structural reliability coefficient of 0.91 (Flairity, Gentry & Mesnikoff, 2013). Within this study, the subscales demonstrated good internal consistency (CSAT -  $\alpha = 0.95$  [time 1] and  $\alpha = 0.91$  [time 2]; STS -  $\alpha = 0.61$  [time 1] and  $\alpha = 0.75$  [time 2]; Burnout -  $\alpha = 0.72$  [time 1] and  $\alpha = 0.80$  [time 2])

#### **4.21.2. Perceived Stress Scale**

See above.

#### **4.21.3. The Warwick–Edinburgh Mental Wellbeing Scale**

The present study wishes to measure mental well-being via The Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007; see Appendix 31). The WEMWBS is a self-report measure of positive mental wellbeing that comprises 14 positively worded statements, rated on a 5-point Likert scale. Items include, "I've been feeling relaxed," "I've been feeling cheerful," "I've been dealing with problems well." Possible scores range from 14 to 70. Higher scores on the 1-5 scale (*none of the time* to *all of the time*) reflect higher levels of mental well-being. Studies have shown that the WEMWBS has good content validity,  $\alpha = 0.91$ ; and test-retest reliability was high at 0.83 (Tennant, et al., 2007). In this study, the overall scale demonstrated good internal consistency ( $\alpha = 0.96$  at time 1) and  $\alpha = 0.93$  at time 2).

## **4.22. Data Collection**

### **4.22.1. Student Data Collection**

With ongoing Government restrictions based on Covid-19 data, the researcher was not given access to the school at the point of data collection. Therefore, it was decided that the school principal would ensure that time 1 data collection would take place within the school. In spite of this agreement the researcher was informed that the school principal had taken long-term sick leave and was now unavailable to conduct data collection on behalf of the researcher, though she did delegate this responsibility to one of the pastoral care members.

After some correspondence via email with the pastoral care member and the researcher, it was decided that due to the evolving pandemic response of restricting some age groups from attending school, as well as staff on sick leave, and the frantic nature of beginning a new school year while implementing restrictions based on social distancing, that the collection of data would now take place by emailing the link of the Qualtrics survey to all participating students in an attempt to allow them to complete in their own home. Within the Qualtrics survey, a student information sheet and student assent form made up the landing page.

Students read the information sheet detailing what the study was about including risks involved with participation. Students gave their assent to allow data collection to proceed. If assent was not given, the Qualtrics software did not allow participants to continue with the survey. Students who did not assent were thanked for their time via Qualtrics software.

Students who assented to data collection answered the questions provided (see measures section) and upon completion of the survey, were directed to a Debrief Sheet (see Appendix 32) informing participants what they could do if they felt distressed by any of the survey questions, and what steps to take if they want to withdraw from the study.

The pre-intervention survey consisted of participants (n=212) completing a series of demographic items and psychometrics (see measures section). Written instruction for

completion was detailed for each questionnaire. To ensure confidentiality students were assigned a unique identifier which was their student ID number. Demographic information such as age, gender, ethnicity was also collected. Immediately following the 90-day MBSR intervention, students participating within the intervention group were surveyed again (post-intervention: time 2) to determine any variation in psychometrics that could be attributed to the intervention (n=126). Due to the restrictions caused by Covid-19 the study was forced to adapt in ways that seen the foregoing of time 3 data collection.

All data collected were stored in a password-protected file and in line with Ulster Universities Policy on data retention and storage, GDPR and Data Protection legislation (Data Protection Act 1998 and Data Protection Act 2018).

#### **4.22.2. Teaching Staff Data Collection**

Similar to the student data collection procedure, the collection of data from teachers followed an electronically invite to complete the survey online at both time points. The pre-intervention survey consisted of teaching staff (n=25) completing a series of demographic items and psychometrics (see measures section). Written instruction for completion was detailed for each questionnaire. To ensure confidentiality school personnel were assigned a unique identifier which was the last 4 digits of their mobile phone number. Demographic information such as age, gender, ethnicity was also collected. Immediately following the 90-day MBSR intervention, school personnel participating within the intervention group were surveyed again (post-intervention: time 2) to determine any variation in psychometrics that could be attributed to the intervention (n=20).

All data collected were stored in a password-protected file and in line with Ulster Universities Policy on data retention and storage, GDPR and Data Protection legislation (Data Protection Act 1998 and Data Protection Act 2018).

#### **4.22.3. Data Preparation**

Once both data collection points were completed, the raw data files of both studies were exported from Qualtrics to SPSS (version 23, IBM Corporation, 2019). To ensure data accuracy, pre-analysis was conducted to assess any missing data and extreme values within the datasets. Missing data were assigned a value of “99” consistently throughout the datasets. In addition, all relevant variables within the measures taken were reverse coded and then totalled in accordance with their authors instructions.

#### **4.23. Analytic Plan**

Due to the arrival of Covid-19 and the policies of lockdowns and restrictions the current phase of the thesis also necessitated curtailing the ambition to evaluate whether parental participation in the mindfulness intervention led to improved outcomes in their children over and above adolescents who participate without parental participation. As such, phase 3 studies had only 2 aims. The first aim was to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme called Inner Explorer – audio-guided – 8 mins daily) would result in an increase in self-reported adolescent emotional regulation and resilience, and a decrease in the levels of rumination, perceived stress and psychopathologic responses. The second aim was to determine whether mindfulness practice increases levels of mental wellbeing, and decreased levels of perceived stress and burnout in teachers who participated in the mindfulness intervention. This analysis was conducted using SPSS (V 23., IBM Corporation, 2019) including the full student sample (intervention sample,  $n = 22$ ; control sample,  $n = 14$ ) and teacher sample ( $n = 10$ ).

The following empirical chapter outlines the definition of adverse childhood experiences (ACEs), and how these categories of experience, as well as adverse social environment categories such as economic deprivation, affect adolescent psychopathology. The following

chapter (1) attempts to provide a conceptual expansion of ACE categories to include items from the Stressful Events Checklist as well as high deprivation, (2) examines the prevalence of self-reported stressful events and associated psychopathology within an adolescent sample in the North-West region of Northern Ireland, (3) utilises latent class analysis to assess associations between possible adversity profiles and subsequent psychopathologic responses, (4) determines the role of high deprivation and its impact on the relationship between profiles of stressful event exposure and internalising and externalising problems. The study will inform further chapters as to the degree of problems experienced by adolescents in Irish schools and provide direction to possible intervention and prevention strategies aimed at building resilience in adolescents who have experienced adversity.

**Chapter 5.** Stressful Events and Adolescent Psychopathology: A Person-Centred Approach to Expanding Adverse Childhood Experience Categories

### 5.1. Abstract

**Objective:** Stress from cumulative adverse childhood experiences (ACEs) can pose a serious risk of experiencing anxiety, depression, and other mood disorders in adolescence. However, there is a paucity of research identifying specific profiles or combinations of exposure to other forms of stressful life events and their impact on adolescent psychopathology. This study attempted a conceptual expansion of the ACE checklist by examining these stressful events.

**Method:** The study used cross-sectional data from a modified version of the CASE Study survey where 864 adolescents (56% female, n=480), aged from 11 – 18 years were recruited from four post-primary schools in the North-West region of NI.

**Results:** Latent class analysis of the 20-item stressful events checklist revealed 3 distinct risk classes: a low-risk class (53.5%), at-risk class (42.7%), and an immediate-risk class (3.8%). Results showed those at most risk of adolescent psychopathology had the highest probability of encountering interpersonal relationship issues, experiencing family dysfunction, and having close friends experiencing psychological difficulties.

**Conclusion:** Findings indicate that the original ten ACE categories may be too narrow in focus and do not capture the wide range of childhood adversity. Expanding the ACE checklist to include other stressful events is discussed as these may also be antecedents to psychopathologic responses.

## 5.2. Introduction

Stressful events are commonly defined as occurring when the demands of any given situation threaten to surpass the resources held by the individual (Lazarus & Folkman, 1984).

Childhood adversity denotes a wide range of stressful and traumatic events. These events may pose a serious risk to the young persons' physical and psychological well-being (Cook et al., 2017; Petruccelli, Davis, & Berman 2019), and are associated with increased risk of both internalising and externalising problems at multiple time points across the life-span (Chapman, Dube, & Anda, 2007; Little & Akin-Little, 2013), higher comorbidity (McChesney, Adamson, & Shevlin, 2015), and recurrence of psychopathology (Benjet, Borges, & Medina-Mora, 2010; Clark, Caldwell, Power, & Stansfeld, 2010).

Findings from the original Adverse Childhood Experiences (ACE's) study (Felitti et al., 1998) has led to a surge of studies replicating and advancing evidence of ways that stress from cumulative childhood adversities can severely impact and diminish quality of life (Bellis et al., 2014a; McGavock & Spratt, 2012; Ramiro, Madrid, & Brown, 2010; Schilling, Aseltine, & Gore, 2007). ACEs are defined as a traumatic or stressful event that an individual has experienced before their eighteenth birthday. These events include physical, emotional, and sexual abuse, neglect, domestic violence, substance abuse, mental illness, parental separation, and incarceration (Felitti et al., 1998). Much of the ACE literature has focused on cumulative risk and presented an overall ACE score and its subsequent negative impact on health outcomes in adulthood. For example, those with four or more ACEs reported three times the rate of heart disease, almost five times the rate of depression, and twelve times the rate of suicide in comparison to those with no ACEs (Bellis et al., 2014b; Felitti et al., 1998).

More recently, studies have begun to illustrate how individual ACE categories, including adverse social environment categories, such as poverty or poor housing, which were absent from the original ACE checklist, independently predict concurrent health outcomes including

poorer emotional and behavioural functioning, and lower cognitive functioning in adolescence (Ballard et al., 2015; Coley, Leventhal, Lynch, & Kull, 2013). Indeed, Marryat and Frank (2019), using data from the ‘Growing up in Scotland’ birth cohort study demonstrated that ACEs were highly correlated with socioeconomic disadvantage (Marryat & Frank, 2019). Accumulating evidence of the deleterious effects of a single independent adversity category on adolescent psychopathology is important as it informs targeted screening, prevention, and intervention for individuals and their communities (Lanier, Maguire-Jack, Lombardi, Frey, & Rose, 2017). Likewise, studies reporting dose-response relationships between cumulative ACE scores and mental health outcomes are adding to the volume of mounting evidence on the relationship between accumulated stress and psychopathology (Chapman et al., 2004; Dube et al., 2001).

However, a limitation of the ACE score is the assumption that categories of adversity are of equal weight (Anda, Porter, & Brown, 2020). Additionally, attempts to understand the impact of stress from single adversity categories may prove problematic (Shevlin & Elklit, 2008) with contemporary research indicating childhood adversities often co-occur (Armour, Elklit, Christoffersen, 2014; Creamer, Burgess, & McFarlane, 2001). Therefore, classifying specific sub-types of adversity exposure, and subsequent mental health outcomes associated with these sub-types can make a valuable contribution to the clinical and theoretical evidence base in order to inform and transform services for trauma-impacted youth (Barboza, 2018; Lanier et al., 2017; McGavock & Spratt, 2012).

Using latent class analysis (LCA), researchers have been attempting to show different profiles or combinations of adversity suggesting different pathways to outcomes depending on the types and combinations of childhood adversities experienced (Lanier et al., 2017; McChesney, Adamson, & Shevlin, 2015). LCA is a statistical method used to categorize underlying relationships or sub-types between observed variables (Shevlin & Elklit, 2008). It

is a person-centered approach that identifies individual responses to each variable and identifies unobserved sub-classes of individuals depending on observed item endorsement (Wang & Wang, 2019). This method has been used to classify ACE endorsement in several recent studies that found childhood adversities associated with maladaptive family functioning (e.g., parental mental illness, child abuse, neglect) was the strongest predictor of the onset and persistence of mental health problems (McLaughlin, Green, Sampson, Zaslavsky, & Kessler, 2010; Kessler et al., 2010). Others have shown that membership of a poly-adversity or high ACEs class led to greater psychopathologic response from respondents (Barnes, Noll, Putnam, & Trickett, 2009; Lew & Xian, 2019; McLafferty, Armour, McKenna, O’Neil, Murphy, & Bunting, 2015).

However, there is a paucity of research identifying specific profiles or combinations of exposure to other stressful events, many of which were not included in the original ACE checklist, and their impact on adolescent psychopathology. Moreover, only a few to our knowledge use adolescent self-reporting of their stressful experiences (Brockie, Dana-Sacco, Wallen, Wilcox, & Campbell, 2015; Duke, Pettingell, McMorris, & Borowsky, 2010;). The advantage of self-reporting of events is a valuable means of accessing information from adolescents directly and addresses some key limitations of the extant literature that use retrospective recollection of adversity in adulthood making recall bias more likely or use caregiver reports of adversity due to the sensitive nature of questioning.

The current study attempted a conceptual expansion of ACE categories to include items from the Stressful Life Events Checklist along with a measure of multiple deprivation. The Stressful Events Checklist was developed following extensive piloting in schools and in an adolescent psychiatric unit established by the international CASE study (see Madge et al., 2008). These stressful events include (see measures section) relationship difficulties, serious illness of a family member/friend, suicide or self-harm of a family member/friend,

physical/sexual abuse, worries about sexual orientation, being bullied, academic difficulties, and having trouble with the police (Madge et al., 2011; Santiago, Wadsworth, & Stump, 2011). These events may deleteriously impact on adolescent development as young people exposed to multiple stressors are more likely to have difficulty forming and maintaining friendships (Borelli & Prinstein, 2006; McMahon, Creaven, & Gallagher, 2020; Rudolph, Hammen, Burge, Lindberg, Herzberg. & Daley, 2000), are more at risk of dropping out of school (Wolpow, Johnson, & Hertel, 2009), being unemployed as adults (Kim-Cohen et al., 2003), and experience poverty throughout their lives (Santiago et al., 2011). Moreover, young people who experience relational difficulties or have a family member who have self-harmed or attempted suicide are at an elevated risk of depression, anxiety, and suicidality (Andersen, & Teicher, 2008; Bridge, Goldstein, & Brent, 2006; Tidemalm et al., 2011). These young people, many of whom are living in deprived communities, are at a higher risk of experiencing maltreatment, witnessing domestic violence, community violence, and face a much higher chance of being placed on the child protection register, or in out-of-home care (Busso, McLaughlin, & Sheridan, 2017; McCartan, Morrison, Bunting, Davidson, & McIlroy, 2018). Indeed, stressful life events such as loss, deprivation, injury, and perceived threat are causal factors in the development of major depressive disorder and generalized anxiety (Nishikawa, Fujisawa, & Tomada, 2018; Spinhoven et al., 2010).

### *Aims and Objectives*

The aims of the present study were to attempt a conceptual expansion of the ACEs gamut experienced by young people to include other stressful events that may be precursors to adolescent psychopathology (1) to examine the prevalence of self-reported stressful events and associated psychopathology within an adolescent sample in Northern Ireland, (2) to utilise latent class analysis to assess associations between stressful event profiles and subsequent psychopathologic responses, (3) to determine the role of socio-economic area

deprivation and its impact on the relationship between adolescent stress profiles and adolescent psychopathology.

### *Hypotheses*

- (1) It was expected that those reporting multiple exposures to stressful events would support a dose-response relationship with adolescent psychopathology.
- (2) Latent class profiles may indicate a low-adversity class and a high-adversity class, with adolescents in the high adversity class being more at risk of psychopathology.
- (3) Finally, it is expected that those in a high-adversity class would be comprised of adolescents from the most socio-economic deprived areas.

### **5.3. Design and Participant Sample**

Secondary analysis of a cross-sectional survey conducted with a total of 864 (56% female, n=480) 11-18-year old's who consented to participate in a school-based survey in four post-primary schools (two secondary schools, one boys grammar, and one girls grammar school) in the North-West region of NI (REC reference: /12/0322). All pupils aged 11 to 18 years ( $M = 13.65; SD = 1.76$ ) were invited to participate (n = 4594; 11–14 years n = 583; 15–18 years n = 281). Data for the study were drawn from a modified version of the CASE Study questionnaire, a more detailed methodology is described elsewhere (Madge et al., 2008).

### **Measures**

#### *Stressful Life Events*

The life events were developed following extensive piloting in schools and in an adolescent psychiatric unit (see Madge et al., 2008). This questionnaire included 20 questions relating to stressful life events experienced in the past 12 months and/or more than a year ago. For the purpose of analysis, these variables were collapsed into dichotomised yes, no, responses.

Sample items included, *have you had difficulty in making or keeping friends? have you been*

*bullied at school? have your parents separated or divorced? have your parents any serious arguments or fights? have you been seriously physically abused? has anyone among your family or friends completed suicide? has anyone among your family attempted suicide or deliberately self-harmed? has anyone forced you to engage in sexual activities against your will?*

#### *Anxiety and Depression*

Anxiety and depression symptomology were measured using the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). This questionnaire includes two 7-item subscales for anxiety and depression using Likert scaled items. Items for each sub-scale are summed and ranges from 0-21, with higher scores indicating higher levels of anxiety and depression. The scale is considered to have excellent psychometric properties. Within this study the internal consistency coefficient tested using Cronbach's alpha indicated  $\alpha = .82$  for anxiety and  $\alpha = .66$  for depression.

#### *Internalising and Externalising Behaviours*

The proportion of adolescents in schools reporting internalising and externalising behaviours were measured using the child self-report Strengths and Difficulties Questionnaire (SDQ; Goodman, & Goodman, 2009). The SDQ is a 25-item scale comprising five sub-scales. Four sub-scales represented problem behaviours (Emotional Symptoms, Peer Problems, Hyperactivity, and Conduct Problems) and one sub-scale represented Pro-Social Behaviour. Total difficulties (Broad Psychopathology;  $\alpha = .82$ ) was calculated by adding the scores for externalising behaviours (i.e., Hyperactivity and Conduct Problems;  $\alpha = .75$ ) and internalising behaviours (i.e., Emotional Symptoms and Peer Problems;  $\alpha = .78$ ), with higher scores on each scale indicating higher levels of difficulties experienced.

#### *Area Stress*

Area stress was calculated by collapsing individual postcodes into small neighbourhood deprivation scores. In NI these neighborhoods are called Super Output Areas (SOAs) with populations around 2000. There are 890 SOAs in NI, with each area designated with an index of multiple deprivation score. Scores are ranked by order, with the most deprived areas (rank 1) to the least deprived areas (rank 890). This study used the index of multiple deprivation rank score as a proxy for family, socio-economic circumstances (NISRA, 2019).

### Data Analysis

The binary coded stressful life events items ( $n=20$ ) were analysed using latent class analysis (LCA). LCA is a statistical method that is used to categorize underlying homogenous classes or groups from categorical multivariate data (Shevlin & Elklit, 2008). LCA reflects not only the number of stressful events endorsed, but also outlines the overall endorsement pattern (Xian et al., 2008). It is a person-centered approach that classifies unobserved subpopulations into latent classes depending on observed item endorsement (Wang & Wang, 2019).

Methodology details applied within this study are available elsewhere (Asparouhov & Muthén, 2014; Bakk & Vermunt, 2016; Nylund-Gibson, Grimm, & Masyn, 2019). Both conceptual consideration and statistical fit indices of the latent class profiles guided decisions concerning the most suitable class model (McBride, Adamson, & Shevlin, 2010). Class profiles were estimated beginning with a one-class model, with additional classes sequentially added until fit indices deteriorated. The fit indices included the Akaike Information Criterion (AIC; Akaike, 1987), the Bayesian Information Criterion (BIC; Schwartz, 1978), the sample-size-adjusted BIC (SSABIC; Sclove, 1987), the Lo-Mendel-Rubin Likelihood Ratio-Test (LMR\_LRT; Lo, Mendel & Rubin, 2001), and entropy (Ramaswamy, DeSarbo, Reibstein & Robinson, 1993). Lower values on the AIC, BIC, and SSABIC suggest good model fit (Lanza, Collins, Lemmon, & Schafer, 2007). The model comprising the lowest BIC values indicates the most reliable and best fitting model among

the measured set of classes (Nylund, Bellmore, Nishina, & Graham, 2007). The LRT compares models that comprise different number of classes. If the LRT value is non-significant, preference for the model with one less class is advised as a better explanation of the data (Wang & Wang, 2019). Entropy value, which ranges from 0 to 1, is a measure of the classification accuracy regarding respondents' class placement based on their model-based posterior probabilities (McBride et al., 2010). Higher entropy values indicate more accurate classification of latent class membership (Ramaswany et al., 1993).

Following identification of the best fitting class profile model and in order to verify the validity of the classes, socio-demographic covariates of gender, age, and SOA scores were added to the model to identify which socio-demographic factors were significantly related to membership of a given class. To assess whether class profiles differed in relation to adolescent psychopathologic responses (SDQ; internalising/externalising behaviours, Conduct Problems, Peer Problems, Hyperactivity, Emotional Symptoms, Pro-social Behaviour, depression, and anxiety), means for these outcome variables were elicited and compared across class profiles utilising the BCH method (Bakk & Vermunt, 2016; Nylund-Gibson, et al., 2019). This approach restricts shifts in latent classes associated with the predominant three-step approach and is preferable to one-step analysis in that the development of class profiles is not confounded by an observed covariate or distal outcome (Nylund-Gibson et al., 2019).

The above analysis was conducted in Mplus version 8.2 (Muthén & Muthén, 1998 - 2018). The default estimator was robust maximum likelihood (MLR). To avoid a local maxima solution, 500 random starting values were used in the initial stage with 10 optimisations in the final stage of convergence. Considering possible nesting effects, a dummy variable of SOA was included as a clustering variable in the analysis adjusting the standard errors of the estimates (Holt et al., 2017). Logistic regression was used to assess associations between

class membership, gender, age, and deprivation scores. The odds ratios indicated the expected likelihood of endorsing a given variable compared with a reference group (Shevlin & Elklit, 2008). Regression analysis was used to investigate whether class membership predicted psychopathologic response.

#### **5.4. Results**

The sample consisted of 864 students (see table 5.1). The mean age of the students  $M=13.65$   $SD\ 1.76$ , minimum = 11 and maximum = 18. Females accounted for 55.6% of the sample. The sample consisted of 96.3% Caucasian, with most students living with both their parents (71.2%). Within the overall sample, 89.6% reported 1 or more stressful event, 46.1% reported 4 or more, with 9.8% reporting 9 or more ( $M=3.94$ ,  $SD= 3.21$ ).

For the initial analysis, multiple independent sample t-tests were conducted to determine whether gender differences in individual characteristic measures of stressful events and outcome variables were observed within the student sample. Results indicate female students experiencing significantly more internalising problems  $t(862) = -4.49 p <.001$ , Emotional Symptoms  $t(859.80) = -8.087 p <.001$ , Pro-social Behaviour  $t(725.05) = -8.724 p <.001$ , and anxiety  $t(861.34) = -4.22 p <.001$  than their male counterparts, with male students experiencing significantly more externalising problems  $t(862) = 2.390 p = .017$ , Conduct Problems  $t(784.01) = 4.704 p <.001$ , and depression  $t(862) = 3.26 p <.001$ .

Table 5.1: Sample Demographics

Sample (n=864)	%	M (SD)
<b>Age</b>		13.65 (1.76)
11 years	8.1	
12 years	24.9	
13 years	16.9	
14 years	17.6	
15 years	20.1	
16 years	4.3	
17 years	5.1	
18 years	3	
<b>Gender</b>		
Female	55.6	
<b>Ethnicity</b>		
Caucasian	96.3	
<b>Living arrangements</b>		
Lived with both parents	71.2	
Lived with one parent	20.1	
Lived with one parent and stepparent	6.3	
Lived with another family member	1	
Lived with other	1.4	
<b>Stressful event score</b>		3.94 (3.21)
1 or more	89.6	
4 or more	46.1	
9 or more	9.8	

### *Latent Class Analysis (LCA)*

A series of LCA models were estimated beginning with one through to five classes (see table 2 for fit statistics). Fit indices suggested that the three-class solution was optimal. The BIC was lowest for the three-class solution, whereas the AIC and the SSABIC were lowest for the five-class solution. However, the LMR was non-significant in the four and five-class solutions, suggesting that the three-class model should be accepted. The three-class solution also produced the highest entropy value (.856).

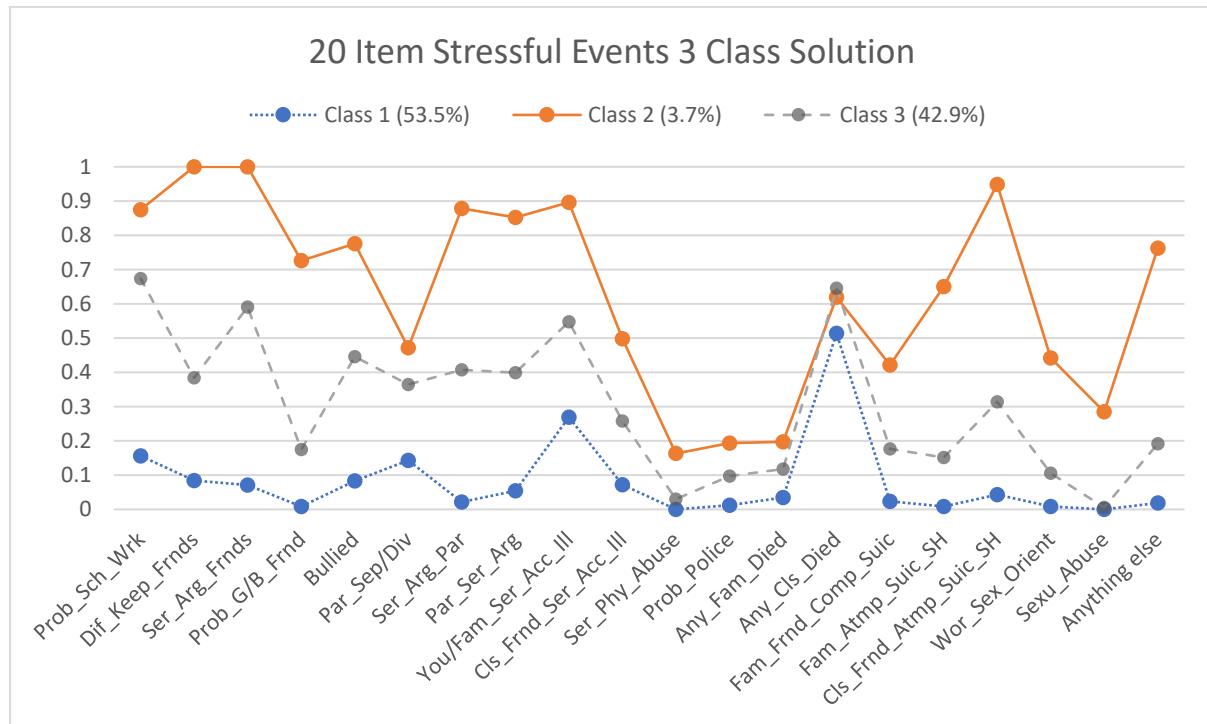
Table 5.2. Fit Statistics for the Unconditional LCAs for 1-5 Classes

Model	Loglikelihood	AIC	BIC	SSABIC	Entropy	LMR ( <i>p</i> )
1	-7302.304	14644.609	14739.467	14675.953	-	
2	-6619.891	13321.783	13516.241	13386.037	.814	1355.225 (.000)
<b>3</b>	<b>-6510.489</b>	<b>13144.978</b>	<b>13439.036</b>	<b>13242.143</b>	<b>.856</b>	<b>217.271 (.0101)</b>
4	-6443.459	13052.918	13446.577	13182.994	.804	133.120 (.8152)
5	-6388.794	12985.588	13478.847	13148.575	.767	108.563 (.281)

Note. AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion; SSABIC=sample-size adjusted BIC; LMR-LRT=Lo-Mendel-Rubin Likelihood Ratio Test. Bold print indicates the best fit statistic across the five models.

The latent class profile plot (see figure 5.1) displays the probability that adolescents in each class endorsed a particular stressful event item and presents a visual representation of the degree of separation between classes.

Figure 5.1: Latent Class Profiles for 3-Class Solution Showing Probabilities of Item Endorsement.



Class 1 comprised the largest class (53.5%) and was characterised by adolescents displaying relatively low probabilities of experiencing each of the 20 stressful events with exception of

the item “Has anyone close to you died?”. This class was labelled low-risk (see table 3).

Students in class 2 (3.7%) all endorsed having difficulties making and keeping friends and having serious arguments or fights with friends with estimated probabilities of 1, respectively. They also recorded a high probability of witnessing serious arguments or fights between parents (.85) and having “serious arguments with either one or both parents” (.88) along with a very high probability of having close friends that have attempted suicide or deliberately self-harmed (.95) (DSH).

Furthermore, students within class 2 had a 78% probability of endorsing experiences of being bullied, with lower probabilities of endorsing the items relating to experiences of forced sexual activity ( $p = .27$ ) and serious physical abuse ( $p = .16$ ). This class was labelled immediate-risk due to the amount of stress experienced and reported difficulties within their relationships. Class 3 (42.9%) was labelled at-risk and was characterised by relatively moderate probabilities of experiencing each of the 20 stress event items (range .01 - .67).

Next the association between class membership and concurrent mental health outcomes were examined while controlling for covariates of age, gender, and SOA (see table 4). First, the assumption that covariates age, gender, and SOA regression coefficients relate identically to outcomes within each class was tested by means of chi-square difference testing using the log-likelihood values and scaling correction factors obtained under the MLR estimator (Bryant & Satorra, 2012). Three models were fitted: a constrained model in which all associations between the covariates and mental health scores were held equal across classes, an unconstrained model in which all associations were free to vary across classes, and a partially constrained model in which some associations were held equal, and some were allowed to vary across classes. Results indicated that the unconstrained model was a better fit than the fully constrained model ( $\Delta\chi^2(48) = 67.91, p = .031$ ) and the partially constrained model was a better fit than the fully constrained model ( $\Delta\chi^2(24) = 72.57, p < .001$ ). Given

also that the partially constrained model showed no significant deterioration in fit when compared to the unconstrained model ( $\Delta\chi^2(24) = 17.63, p = .821$ ), the more parsimonious partially constrained model was retained for analysis.

Table 5.3: Actual and Model-Estimated Response Probabilities and Odds Ratios of Item Endorsement for the Three-Class-Class Model

	Actual N (%) Endorsed	Estimated Response Probabilities			OR of Item Endorsement for Class vs. Class		
		Class 1	Class 2	Class 3	2 vs. 1	2 vs. 3	3 vs. 1
<b>Sample (n=864)</b>							
N (% of sample)		453 (53.5%)	31 (3.7%)	364 (42.9%)			
Female	480 (55.6%)	54%	82%	53%			
Age mean (SE)	13.66 (.06)	13.20 (.10)	14.94 (.29)	14.12 (.10)			
Deprivation mean (SE)	298 (8.22)	293 (.37)	350 (.58)	300 (.37)			
AvePP		0.938	0.944	0.936			
Stress score mean (SD)	3.94 (3.21)	1.28	13.29	6.46			
Problems w/schoolwork	343 (40.4%)	0.16	<b>0.88</b>	0.67	38.46	3.38	11.24
Difficulty keeping friends	209 (24.6%)	0.08	<b>1.00</b>	0.38	-	-	6.76
Arguments/Fights w/friends	278 (32.8%)	0.07	<b>1.00</b>	0.59	-	-	18.87
Problems w/girl/boyfriend	90 (10.6%)	0.01	<b>0.73</b>	0.18	333.33	12.47	25.64
Bullied at school	224 (26.4%)	0.08	<b>0.78</b>	0.45	38.46	4.30	8.77
Parents separated/divorced	212 (25%)	0.14	0.47	0.37	5.38	1.56	3.45
Arguments/Fights w/parents	185 (21.8%)	0.02	<b>0.88</b>	0.41	333.33	10.50	31.25
Witness parents argue/fight	196 (23.1%)	0.05	<b>0.85</b>	0.40	100.00	8.67	11.63
Immediate family' illness/accident	349 (41.2%)	0.27	<b>0.90</b>	0.55	23.26	7.11	3.29
Close friends' illness/accident	142 (16.7%)	0.07	0.50	0.26	12.82	2.85	4.46
Serious physical abuse	16 (1.9%)	0.00	0.16	0.03	-	6.29	-
Trouble w/police	47 (5.5%)	0.01	0.19	0.10	19.23	2.23	8.62
Immediate family died	65 (7.7%)	0.04	0.20	0.12	6.76	1.83	3.68
Anyone else close died	487 (57.4%)	0.51	0.62	0.65	1.55	0.89	1.73
Family/Friends complete suicide	88 (10.4%)	0.02	0.42	0.18	30.30	3.39	8.93
Family/Friends attempt suicide/DSH	79 (9.3%)	0.01	0.65	0.15	250.00	10.40	21.74
Close friends attempt suicide/DSH	163 (19.2%)	0.04	<b>0.95</b>	0.31	500.00	40.15	10.20
Sexual orientation worries	56 (6.6%)	0.01	0.44	0.11	90.91	6.73	13.16
Sexual abuse	11 (1.3%)	0.00	0.29	0.01	-	67.72	-
Any other distressing event	102 (12%)	0.02	<b>0.76</b>	0.19	166.66	13.48	12.51

Note: AvePP = average posterior class probability. SD = standard deviation. OR = odds ratio. Class 1 = Low-Risk. Class 2 = Immediate-Risk. Class 3 = At-Risk. Item probabilities > 0.7 bolded to indicate a high degree of class homogeneity. DSH = deliberate self-harm. - = ORs were not estimated since the probability was 1 or 0.

*Differences in Psychopathologic and Behavioural Responses across Classes*

Respondents in the immediate-risk class reported higher depression scores than those in both the low-risk class ( $b = -3.21, p = .018, d = 1.34$ ) and the at-risk class ( $b = -2.82, p = .046, d = 0.88$ ). For anxiety scores, both the immediate-risk class and the at-risk class recorded higher levels of anxiety than the low-risk class ( $b = -4.50, d = 2.02$  and  $b = -2.57, d = .98, p < .001$  respectively). A similar pattern of results emerged in terms of self-reported stress with higher scores recorded in both the immediate-risk class ( $b = -12.04, p < .001, d = 6.14$ ) and the at-risk class ( $b = -5.17, p < .001, d = 2.72$ ) compared against the low-risk class. The immediate-risk class also exhibited higher average stress scores than the at-risk class ( $b = -6.87, p < .001, d = 2.98$ ).

Emotional problems also tended to be higher among those in both the immediate-risk and at-risk classes compared to the low-risk class ( $b = -2.40, p = .012, d = 1.39$  and  $b = -1.22, p < .001, d = 0.78$  respectively). Peer problem scores were likewise higher in the immediate-risk class compared to both the low-risk group ( $b = -3.71, p < .001, d = 1.21$ ) and the at-risk class ( $b = -2.99, p < .001, d = 0.65$ ), with higher average scores also evident in the at-risk class compared to those in low-risk ( $b = -.72, p < .001, d = 0.47$ ). A similar pattern of class differences was evident for conduct problems, hyperactivity, internalizing problems and externalizing problems. Those in the immediate-risk class scored higher average scores on conduct problems than those in both the low-risk group ( $b = -14.27, p < .001, d = 1.41$ ) and the at-risk group ( $b = -9.57, p < .001, d = 0.63$ ). Similarly, the at-risk class recorded higher scores than the low-risk class ( $b = -4.70, p < .001, d = 0.68$ ). Hyperactivity scores also followed this same general trend with higher scores in the immediate-risk and at-risk classes compared to low-risk ( $b = -9.89, d = 1.39$  and  $b = -.4.58, d = 0.75$  respectively,  $p < .01$ ). Pro-social behaviour scores tended to be lower in the immediate-risk class when compared to both low-risk ( $b = 10.05, p = .002, d = 0.33$ ) and at-risk ( $b = -8.66, p = .009, d = 0.21$ ).

Table 5.4: Summary of Significant Tests of Mean Differences on Psychopathologic and Behavioral Variables Across Classes.

	Class Differences	Estimate (b)	S.E.	Est./S.E.	p	95% CI	Cohen's D
Depression	1 vs. 2	-3.21	1.36	-2.36	.018	-5.89/-0.54	1.34
	3 vs. 2	-2.82	1.41	-2.00	.046	-0.05/-5.59	0.88
Anxiety	1 vs. 2	-4.50	1.12	-4.01	<.001	-6.70/-2.30	2.02
	1 vs. 3	-2.57	0.47	-5.46	<.001	-3.49/-1.65	0.98
Stress	1 vs. 2	-12.04	0.45	-27.00	<.001	-12.91/-11.17	6.14
	1 vs. 3	-5.17	0.16	-31.68	<.001	-5.49/-4.85	2.72
	3 vs. 2	-6.87	0.45	-15.23	<.001	-5.99/-7.75	2.98
Emotional Symptoms	1 vs. 2	-2.40	0.95	-2.52	.012	-4.26/-0.53	1.39
	1 vs. 3	-1.22	0.26	-4.62	<.001	-1.73/-0.70	0.78
Peer Problems	1 vs. 2	-3.71	0.82	-4.54	<.001	-5.31/-2.11	1.21
	1 vs. 3	-0.72	0.19	-3.73	<.001	-1.10/-0.34	0.47
	3 vs. 2	-2.99	0.78	-3.84	<.001	-1.47/-4.52	0.65
Conduct Problems	1 vs. 2	-14.27	1.98	-7.21	<.001	-18.15/-10.39	1.41
	1 vs. 3	-4.70	0.90	-5.24	<.001	-6.45/-2.94	0.68
	3 vs. 2	-9.57	2.17	-4.41	<.001	-5.32/-13.83	0.63
Hyperactivity	1 vs. 2	-9.89	3.36	-2.94	.003	-18.55/-3.30	1.39
	1 vs. 3	-4.58	1.46	-3.13	.002	-8.35/-1.71	0.75
Pro-social	1 vs. 2	10.05	3.25	3.09	.002	1.68/16.43	0.33
	3 vs. 2	8.66	3.33	2.61	.009	17.23/2.15	0.21
Internalising	1 vs. 2	-24.34	5.09	-4.78	<.001	-34.32/-14.37	1.63
	1 vs. 3	-9.71	2.10	-4.64	<.001	-13.82/-5.61	0.82
	3 vs. 2	-14.63	5.31	-2.76	.006	-4.23/-25.03	0.74
Externalising	1 vs. 3	-5.13	2.30	-2.23	.026	-9.64/-0.61	0.80

Note: Class 1 = Low-Risk. Class 2 = Immediate-Risk. Class 3 = At-Risk

Finally, internalising problems scores also tended to be higher in the immediate-risk class compared to both the low-risk group ( $b = -24.34, p < .001, d = 1.63$ ) and the at-risk group ( $b = -14.63, p = .006, d = 0.74$ ) with the at-risk class exhibiting higher scores than the low-risk group ( $b = -9.71, p < .001, d = 0.82$ ). Finally, externalising problems scores were higher in the at-risk class compared to the low-risk class ( $b = -5.13, p = .026, d = 0.8$ ).

## **Demographic Differences within Classes**

### *Low-Risk Class*

Within latent class one (low-risk class) both being female ( $b = 0.73, p=.003$ ) and being older ( $b = 0.12, p=.014$ ) were associated with higher emotional problems scores, whilst being male ( $b = -0.55, p=.003$ ) and living in a more deprived area ( $b = -0.05, p=.028$ ) were linked to higher scores on peer problems. In addition, males within this class scored higher on both conduct problems ( $b = -0.72, p<.001$ ) and hyperactivity ( $b = -0.57, p=.020$ ) and females recorded higher pro-social behaviour scores ( $b = 1.65, p<.001$ ). Older adolescents reported higher anxiety ( $b = 0.19, p=.028$ ) and males scored higher on depression ( $b = -1.73, p<.001$ ). Furthermore, males scored higher on internalising problems within class one ( $b = -1.30, p<.001$ ) and older adolescents reported higher externalising problems ( $b = 0.27, p=.013$ ).

### *Immediate-Risk Class*

Within latent class two (immediate-risk class), females ( $b= 1.94, p=.050$ ) and older adolescents ( $b= 0.12, p=.014$ ) exhibited higher emotional problems. Greater area deprivation was associated with higher peer problems ( $b= -0.05, p=.028$ ) and younger respondents scored higher on conduct problems ( $b= -0.66, p<.001$ ) and hyperactivity ( $b= -0.43, p=.022$ ). Furthermore, being female ( $b=1.28, p=.035; b=4.42, p=.006$ ) and being older ( $b = 0.52, p=.011; (b= -0.19, p=.028)$  was associated with higher pro-social behaviour and anxiety respectively. Finally, within this class, higher internalizing scores were recorded from younger respondents ( $b= -1.07, p<.001$ ) and those from more deprived areas ( $b= -0.46, p=.003$ ) within this class.

### *At-Risk Class*

Hyperactivity scores were also higher among females within this at-risk class ( $b = 0.73, p=.002$ ) along with higher anxiety ( $b = 2.05, p<.001$ ), pro-social behaviour ( $b = 0.58, p=.028$ ), emotional problems ( $b=1.94, p<.001$ ) and externalising problems ( $b = 2.12, p<.001$ ).

and older adolescents ( $b=0.12, p=.014$ ) scored higher on emotional problems. Deprivation was linked to higher scores on peer problems ( $b = -0.05, p=.028$ ) and younger adolescents reporting higher conduct problems ( $b = -0.21, p<.001$ ) and hyperactivity ( $b = 0.19, p=.002$ ). while being older predicted anxiety ( $b=0.118, p=.028$ ). Again, being younger predicted internalising problems ( $b=-0.420, p<.001$ ) and being female predicted externalising ( $b=2.20, p <0.001$ ).

### *Logistic Regression*

Older students were more likely to be in the immediate-risk class compared to both the low-risk class ( $OR = 1.7, p< .001$ , 95% CI= 1.426 - 2.036) and the at-risk class ( $OR = 1.38, p< .001$ ; 95% CI= 1.233 - 1.543). Deprivation was not linked to likelihood of class membership.

## **5.5. Discussion**

The present study attempted a conceptual expansion of the ACEs checklist by examining 20 items of the Stressful Life Events Checklist (Madge et al., 2008) within a sample of post-primary school adolescents in N.I. Findings revealed that those most at risk of experiencing adolescent psychopathology had a high probability of encountering relationship issues, experiencing family dysfunction, and/or having a family member undergo a serious illness, and having close friends who deliberately self-harm or have attempted suicide. These findings indicate that ACEs may present in many forms, such as loss, interpersonal relationships, family dysfunction, illness, or having close friends experiencing psychological difficulties. Consequently, this study demonstrates that the original ten ACE categories may be too narrow in focus, and therefore may not encapsulate the full spectrum of ACES. Broadening the scope of the ACE checklist to include other stressful events is recommended as these may also be antecedents to psychopathologic responses.

The study examined the prevalence of self-reported stressful events within the sample. The most common stressful events reported included, having someone close dying, having had or

someone in the family having had a serious illness or accident, having had serious arguments or fights with friends and with either or both parents, having difficulty making or keeping friends, being bullied at school, having parents who are separated or divorced, and having close friends or family members attempting suicide or self-harming. Concerningly, over 10% of the sample endorsed having either a family member or friend who completed suicide. Respondents within the sample reported low levels of physical abuse and sexual abuse compared with previous studies (Madge et al., 2011). Nevertheless, the study has shown high reported incidence rates of stressful life events among adolescents in N.I. On average, adolescents indicated that they had experienced approximately four stressful events from the 20-item checklist, with over 40% experiencing seven or more, and only 10% experiencing no stressful events. As expected, participants reporting multiple exposures to stressful events supported a dose-response relationship with adolescent psychopathology, with multiple events significantly predicting more psychopathologic responses. Similar to findings from a systematic review and meta-analysis (Petruccelli et al., 2019), this study revealed adolescent females reporting more stressful events than males, females were also more likely to experience internalising problems, Emotional Symptoms, anxiety, and be more pro-social than their male counterparts. Males were more likely to experience externalising problems, and depression. The graded relationships indicated by the gradual increase in psychopathological responses demonstrated the cumulative effect of stressful life events. The risks for mental ill-health increase significantly according to the number of stressful life events reported. Indeed, studies reporting an adversity score add to the volume of mounting evidence on the relationship between childhood adversities and psychopathology (Chapman et al., 2004; Dube et al., 2001).

Previous studies revealed that childhood adversities do not happen in isolation with co-occurrence common (Armour et al., 2014; Creamer et al., 2001). Using a person-centred

approach, latent class analysis of the 20-item checklist responses did not show any distinct typology profiles of stressful event experience (e.g., a sexual abuse class or a peer problems class), rather a continuum from low to high stressful event experience was revealed. These findings demonstrate that within the post-primary schools sampled there seems to be a generally healthy class of students (low-risk class), an unhealthier at-risk class, and an immediate-risk high stress class. The more stressful events experienced, the more internalising and externalising problems these adolescents reported. There was no distinct sexual abuse class, however, consistent with previous research associating sexual abuse with a high risk of poly-victimisation (Barnes et al., 2009), sexual abuse was more commonly reported by respondents of the immediate-risk class. Previous research found that exposure to child sexual abuse was associated with increased risks of psychopathology, including depression, anxiety, Conduct Problems, and suicidal ideation (Fergusson, Boden, & Horwood, 2008).

These latent classes closely correlate with Shemmings and Shemmings (2011) who reported that approximately 60% of children develop stable, healthy emotional bonds with their parents, whilst 40% do not. These young people are less able to cope with stress or adversity and are more prone to internalizing and externalizing behaviours. In addition, adolescents raised in an environment where family dysfunction is common may often find it difficult to form and maintain healthy relationships. This can lead to lasting psychological problems such as increased anxiety, depression, and suicidality (Cook et al., 2017; Petruccelli et al., 2019).

Next, the associations between stressful event classes and subsequent psychopathologic responses were assessed. In accordance with previous findings, adolescents reporting multiple exposures to stressful events supported a dose-response relationship with adolescent psychopathology (Lew & Xian, 2019; McLafferty et al., 2015), with both the at-risk and immediate-risk classes reporting higher anxiety, depression, and worse broad

psychopathology than the low-risk class. This study also assessed the role of area deprivation and its impact on the relationship between stressful event classes and adolescent psychopathology. Results indicated that high deprivation did not predict membership of any of the classes, however, the measure did predict Peer Problems within each class individually alongside predicting internalising behaviours within the immediate-risk class. Surprisingly, indicators of deprivation were lowest within the immediate-risk class compared to the other two classes. As the schools involved in this study belong to a region of N.I with historically high deprivation, this anomaly may be explained by a relative lack of variance in deprivation scores within this sample.

Our overall findings reveal that exposure to stressful events are associated with numerous psychopathologic outcomes among adolescents in a dose-response pattern. As adolescents get older, the odds of experiencing mental ill-health increase especially for adolescents who have experienced multiple stressful events. As Burke and Minton (2019) suggest, this finding may be at least partially attributable to academic pressures of examinations in older pupils (Burke & Minton, 2019). Future research should also examine and cross-correlate other potential measures potentially influencing adolescent well-being such as puberty, social relationships, and transitions from junior to senior years.

As our findings illustrate, all young people in the immediate-risk class who have endured multiple stressful events have also reported experiencing relational difficulties. Previous research suggests that adolescents who experience difficulties in school and within their social lives are more likely to encounter feelings of rejection and failure leading them to being more susceptible to Emotional Symptoms including depression (Powell et al., 2020).

As adolescents separate from their parents, they depend on their peers more for social support to guide them through this important transition of development. The importance of good friendships, feeling accepted by others, and playing or interacting with others may be

important factors ameliorating the onset of depressive symptoms and building healthy self-concepts. Prior findings have shown that self-concept is key to psychological well-being but may be affected by poor social relationships or stressful events (McMahon et al., 2020). Poor quality relationships may impact on health and frequently result in diminished levels of psychological well-being (McMahon et al., 2020), and increased depressive symptomology (Andersen, & Teicher, 2008). In turn, depression may generate avoidance and conflictual interpersonal behaviours leading individuals to withdraw from social engagement eliciting further feelings of rejection and deterioration in their social lives and the exacerbation of additional stress (Rudolph et al., 2000).

As for the domains of the SDQ, a straightforward description of how these problems may interact leading to adolescent psychopathology may be that difficulties in each domain have a reciprocal relationship with each other due to one problematic domain precipitating difficulties in other domains (e.g. adolescents with emotional problems are less able to form and maintain healthy peer relationships), or, due to the variables been linked bi-directionally (e.g. each problem domain aggravating the other over a period of time: adolescents with peer problems advance further emotional difficulties and vice versa), or, because of shared etiological factors which impact development of both peer and emotional problems (Mok et al., 2014). As this study demonstrates, other vulnerable factors known to influence emotional problems in adolescence are gender. Females are considered more relationally oriented and exhibit greater affiliative needs especially in adolescence, they are more reactive to peer stress and are more likely to experience internalizing problems in comparison to males (Hankin et al., 2015).

### *Limitations*

Our overall findings should be considered in light of several limitations. First, the current study was cross-sectional, it was not possible to determine the causal order of stressful events and domains listed in the SDQ. Second, the frequency of individual events, the emotional intensity felt by respondents to these events, and whether these events were daily, weekly, or monthly and so on were not elicited within this study. Any further research may include prospective, longitudinal, and qualitative studies that measure the age of exposure, frequency, and chronicity of exposure, providing a deeper understanding of the implications of stressful events on adolescent psychopathology. Third, the study assumed that each item on the Stressful Life Event Checklist had the potential to contribute equally to adolescent psychopathology. Assessing the effects of each individual stressful event with the potential to identify whether one event in comparison to another had a possible greater impact on adolescent psychopathology was beyond the scope of this paper. Future research may demonstrate the individual impact of each item of the Stressful Life Events Checklist. Fourth, even though the self-rated version of the SDQ was shown to be a reliable and valid method for the assessment of behavioural problems in adolescents (Goodman, & Goodman, 2009), caution may be warranted in determining causation not least because such reports are subjective and unverifiable. Better use of triangulation such as adolescent self-report, parental report, along with teacher report would provide a more accurate appraisal of psychopathology in adolescence. Finally, the small size of the immediate-risk class can cause less reliable estimates of class-specific parameters and may diminish substantive meaning of the latent class (Brown, Rienks, McCrae, & Watamura, 2017).

### *Clinical Implications*

Our findings reveal that there may be small yet meaningful numbers of adolescents in schools who need immediate intervention to change their life-course. These young people may benefit from individual and family therapies (Das et al., 2016), and programmes aimed at

stress reduction (Hofmann, Sawyer, Witt, & Oh, 2010). However, the young people who pose as at-risk may often go undetected if they are not disruptive to school life. This cohort may therefore be offered little in terms of interventions or prevention programmes aimed at reducing anxiety, depression, and behavioural problems. Therefore, and in line with the findings of this study, it is suggested that broad intervention or prevention programmes targeting whole-school student mental health, ensuring that every young person learns healthy coping skills in the face of adversity are implemented (Essau, Conradt, Sasagawa, & Ollendick, 2012). In addition, schools need to ensure that enhancing relational connectedness are at the core of these programmes. Moreover, it is recommended that within post-primary schools all staff be trained to become more ACE-informed and trauma responsive. An ACE-informed and trauma-responsive whole-school approach requires school staff to support all students regardless of exposure to risk. Training would provide staff the knowledge and skills to act as an always available adult (Bellis et al., 2017), empowering students to seek support when needed, and enabling staff to build resilience in students to protect against deleterious outcomes associated with ACEs (Barton, Newbury, & Roberts, 2018).

Additionally, the value of this research demonstrates the significance of early screening for ACEs in adolescent development within both clinical and child protection services along with other settings that serve as a significant point of entry to services for adolescents such as schools and primary care. However, limitations to screening that employ available instruments to survey ACEs are numerous. For example, it is important to note the paucity of clinical guidelines available defining poly-victimisation and how such information is combined in assessing risk. Currently, there are no available existing measures that provide an exhaustive list of possible ACEs. In addition, ACEs are weighted equally on existing instruments, it seems improbable that these individual ACE items confer equal risk of stress related traumatization and their long-time effects. Consequently, results attained through

existing measures can only provide a rough estimate of the level of ACEs experienced by adolescents. Furthermore, quantifying the total number of ACEs without enquiring about protective factors may lead to decisions pertaining to clinical care and services based upon misclassification of risk (Anda et al., 2020). Further research may test prediction models that account for risk, including poly-victimisation, abuse, loss, peer relationships, household dysfunction, and indices of deprivation, as well as protective factors such as resilience (Fergusson et al., 2008). Models accounting for both risk and protective factors may inform the development of more sophisticated assessment measures with the potential to target predominantly high-risk adolescents and improve the allocation of scarce and diminishing resources. Thus, clinical interventions need to have the ability to span the potential range of young people's difficulties, identify individual resilience that can be bolstered through therapy along with the need for both whole family and whole school approaches to intervention.

### **5.6. Conclusion**

This study attempted a conceptual expansion of the ACE checklist utilizing the stressful life events and problems checklist (see Madge et al., 2008) in adolescents aged between 11 to 18 years. To our knowledge, no such study has been undertaken in this way before with this age group. Our findings demonstrated that those at most risk of adolescent psychopathology had the highest probability of encountering interpersonal relationship issues, experiencing family dysfunction and illness, loss, and having close friends experiencing psychological difficulties. Consequently, this study demonstrated that the original ten ACE categories may not capture the wide range and complexity of childhood adversity and supports the inclusion of peer relationships/difficulties along with indicators of deprivation to the ACE checklist as these were found to be strong predictors of psychopathology. Further, the number of stressful events reported within the sample had a graded relationship to broad and specific

psychopathology in adolescence. These findings support existing literature on the association between the cumulative impact of childhood adversity and adolescent psychopathology. Latent class analysis revealed a three-class solution consisting of a low-risk, at-risk, and immediate-risk of adolescent psychopathology groupings. Rather than only focusing resources aimed at ameliorating psychopathology at the immediate risk group, this study also supports broad intervention or prevention programmes targeting whole-school mental health. Finally, living in an economically disadvantaged area has many social and emotional implications for adolescent development, including internalizing problems and Peer Problems. Efforts to improve adolescent mental health outcomes should spotlight socioeconomic inequalities along with early identification, and the implementation of prevention, and intervention strategies.

The following chapter comprises of a narrative empirical synthesis as structured by the Evidence for Policy and Practice framework (EPPI-Centre, 2007), of whole-school, trauma-informed approaches. The application of the framework aimed to identify research questions, evaluate the appropriateness of research designs to programmes used, identify the type of analysis used and consistency of results attained as well as the generalisability of findings. With a dearth of review studies available it is essential to synthesise the existing empirical literature, highlight future research possibilities and outline the implications in utilising whole-school, trauma-informed teaching pedagogies for future policy changes.

**Chapter 6.** Whole-School Trauma-Informed Approaches: A Systematic Narrative Review of the Literature

## 6.1. Introduction

Trauma is described as a psychological reaction to a distressing event such as, bullying, community violence, discrimination, domestic violence, economic deprivation, or natural disasters (Cohen & Barron, 2021). An extensive literature on trauma and the neurobiology of stress demonstrates how healthy biological, and psychological systems can be disrupted and brain architecture altered by recurrent and prolonged activation of the body's stress response mechanisms (Carrión & Wong, 2012). Children and adolescents exposed to traumatic stress may develop mental health problems (He, Guo, Wang, Hu, & Chen, 2020; Juruena, Eror, Cleare, & Young, 2020; Pervanidou, Makris, Chrouzos, & Agorastos, 2020; van der Kolk, 2005), problems with learning (Harms, Shannon Bowen, Hanson, & Pollak, 2018), behaviour (Shern, Blanch, & Steverman, 2016), and relationships (Santiago, Wadsworth, & Stump, 2011). The ground-breaking Centre for Disease Control, Adverse Childhood Experiences (ACEs) study illuminated both the common and pervasive impact of early life stress and adversity (Felitti et al., 1998) exposing trauma as both ubiquitous and a global health concern (Felitti et al., 1998).

It is well established that schools have a duty for the concomitant responsibilities to the academic, emotional, behavioural, and social development of children (Walker et al., 1996). Historically, schools have emphasised academic attainment and test performance over student health (Knight & Knight, 2011). However, the contemporary research literature has linked both emotional and behavioural problems with academic performance and has led to appeals to establish more comprehensive, school-based initiatives to be more inclusive to meet the needs of trauma-impacted youth (von der Embse, Rutherford, Mankin, & Jenkins, 2019). This research suggests that the negative effects of recurrent and prolonged activation of the body's stress response system can be far-reaching and overwhelming (van der Kolk, 2005). Trauma-impacted students may be exposed to one or more academic challenges ranging from

limited attentional control (Fergusson, Horwood, & Ridder, 2007), poorer concentration levels (Tracy, Salo, Slopen, Udo, & Appleton, 2019), memory problems (McLaughlin & Sheridan, 2016), lack of organisational skills (Sheridan, Peverill, Finn, & McLaughlin, 2017) to diagnosed disorders and challenging behaviours (King, 2021). Challenging behaviour may accelerate disciplinary referral leading to suspension or expulsion (Spratt et al., 2012), school truancy and academic failure (Woodward & Fergusson, 2000).

Trauma-informed professional development training has been shown to assist school staff to develop more trauma-sensitive practices in the classroom, building better relationships with students and providing students with a safe place to flourish (McInerney, & McKlindon, 2014; Overstreet & Chafouleas, 2016; Parker, Olson, & Bunde, 2019; Plumb, Bush, & Kersevich, 2016). Kim et al. (2021) demonstrated significant decreases in teacher emotional exhaustion following implementing a trauma-informed framework (Kim, Crooks, Bax, & Shokoohi, 2021). The study illustrated the potential benefits of embedding a trauma-informed ethos in schools to prevent an adversative learning environment and alleviate teacher stress.

A trauma-informed ethos is defined using ‘the 4 R’s’, as programmes, organisations, or systems that *realise* the widespread impact of trauma and understands potential paths for recovery; *recognise* the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and *respond* by fully integrating knowledge about trauma into policies, procedures, and practices, and seeks to actively *resist* re-traumatisation” (SAMHSA, 2014. P. 9). Consequently, whole-school trauma-informed approaches require both teacher practice, and top-down procedures and policies implemented by school leadership across all school levels (Hobbs, Paulsen, & Thomas, 2019; Thomas, Crosby, & Vanderhaar, 2019). Procedures and polices apply to classroom composition, systemic supports to address the needs of both students and school personnel, community participation, and a philosophy that

understands, respects, and is responsive to the individual needs of their students (Phifer & Hull, 2016; Wolpow et al., 2009).

These approaches are not new as some alternative schools already practice in a trauma-informed manner in recognition of children who have experienced trauma (Morgan, Pendergast, Brown, & Heck, 2015). However, in comparison, mainstream schools are inclined to advance a more direct interventionist approach (e.g., cognitive behavioural therapy and crisis management) to support trauma-impacted students (Costa, 2017). This strategy proves expensive and thus, only a small number of trauma-impacted students receive support (Bawija, Santiago, Vona, Pears, Langley, & Kataoka, 2016). Subsequently, vulnerable communities who operate within the parameters of diminishing resources means that the only intervention students receive is provided by the school or teacher (Brunzell, Stokes, & Waters, 2016).

However, trauma-informed schools have the capacity to offer students opportunities for meaningful and nourishing relationships, build trust and relational skills through interactions with peers and adults, be recognised, respected, and responded to in a consistent, predictable, and safe manner, and experience better mental health and academic success (Brunzell, Stokes, & Waters, 2016; Wolpow et al., 2009). Through meaningful and nourishing relationships with peers and school personnel, the academic and life experiences of trauma-impacted youth can be profoundly affected by the integration of trauma-informed principles in classrooms (Plumb et al., 2016; Weare, 2020).

### *Research in Trauma-Informed Schools*

Within Ireland and the UK, the purpose of education is to empower young people to succeed in the economy, participate in culture, and prepare them for adult life (Gibb, 2015). To realise these objectives, students necessitate the ability to learn, and teachers necessitate the ability

to teach. However, as schools are becoming more results-focused to attract students in an ever-increasing competitive environment for numbers and government funding, stressed teachers and staff may inadvertently create additional pressure for students to perform on standardised tests (McDonnell, 2015). Yet, there is a considerable number of trauma-impacted students attending schools who are experiencing difficulties. This creates an onus on the education authority to deliver on their responsibilities to provide adequate learning opportunities for students who are impacted by trauma (Cohen & Barron, 2021).

Yet, teachers may have limited understanding and awareness of the impact of trauma on student learning and how to mitigate challenging classroom behaviours (Sitler, 2009). Pre-teacher training programmes often offer inadequate instruction to meet the needs of trauma-impacted students (McInerney & McKlindon, 2014; Rosenzweig, 2009). Omitting adequate training on how traumatic experience affects learning may result in teachers developing challenging relationships with their students due to misunderstanding students to be problematic instead of viewing these students as young people who may require additional supports (Dorado, Martinez, McArthur, & Leibovitz, 2016).

In addition to limited understanding and awareness of underlying, unaddressed trauma reactions in their classroom, teachers also have differing ideas and philosophies about how to manage these students (Martin, Ashley, White, Axelson, Clark, & Burrus, 2017). School policies around discipline and punishment of misconduct are often insufficient when addressing the socio-emotional needs of the trauma-impacted student (Hertel, Frausto, & Harrington, 2009). Indeed, these policies often present as a major barrier when the goal is zero tolerance. Such policies can lead to the disempowerment of students due to being denied the opportunity to correct their conduct in a safe space (Hertel et al., 2009).

Policies of zero tolerance such as suspension and expulsion have been shown to be ineffective and counterproductive (Mendez, 2003). These punitive measures can lead to re-traumatisation and may serve to exacerbate the conditions that created the misconduct in the first place (West, Day, Somers, & Baroni, 2014). As Crosby (2015) noted, authoritarian measures regarding punishment and discipline in the classroom may lead to a power struggle where the trauma-impacted student attempts to retain some form of control, thus classroom conflict endures, and adversity continues to be perpetuated on the student unabated (Crosby, 2015). Teachers who are not trained on methods of de-escalating behaviours or restorative practices tend to adopt punitive measures in the face of misconduct or misbehaviour often leading to a cycle of mistrust and sustained classroom friction (Marengo, Fabris, Prino, Settanni, & Longobardi, 2021).

With an increasing awareness of ACEs and their detrimental effects on adolescent development in the UK and Ireland there has been little research conducted in trauma-specific approaches that are applicable in schools to support young people. One such approach has demonstrated rapid growth in the U.S. These trauma-informed approaches have been implemented in schools in over 17 states to advance the provision of teaching staff capable of reaching and educating trauma-impacted youth (Overstreet & Chafouleas, 2016).

In response to this rapid growth in trauma-informed approaches in schools in the U.S. Maynard and colleagues' (2019) conducted a systematic review of the literature to investigate whether such approaches impacted student behaviour, academic attainment, and teacher well-being to better inform policy and practice. This Campbell Collaboration review of trauma-informed approaches in schools failed to identify any studies that reached their inclusion criteria of a randomised control trial or quasi-experimental designs with a comparison group (Maynard, Farina, Dell, & Kelly, 2019). With the Campbell Collaboration review in mind, Cohen and Barron (2021) incorporated a more inclusive approach to research design and

explored the efficacy of trauma-informed approaches in high schools. The authors found limited methodological designs; half of the studies focused on staff outcomes alone. They concluded that there was a small number of empirical studies, and with the assortment of study aims, and methodological designs this made it challenging to generalise the outcomes.

The current review, which includes studies up to 2021, focused specifically on whole-school or school-wide implementation of trauma-informed models that incorporate the three prerequisites of trauma-informed organisational wide approaches defined by SAMHSA (2014) as follows:

1. School personnel professional development directly related to understanding the impact of trauma
2. Adapted practice – changes were implemented to reflect a more trauma-informed approach across the school i.e., trauma screening, prevention/intervention approaches for trauma-impacted students, and a purposeful determination to build relationships between staff and students.
3. Systems change – inclusive of policy and procedure change to reflect a trauma-informed environment i.e., change in disciplinary practices

The current review extends upon the work of Maynard et al. (2019) and Cohen and Barron (2021) and contains qualitative and mixed methods study designs in the context of school-wide or whole-school trauma-informed approaches.

Protecting children and young people from further ACEs and re-traumatisation pivots on societal and educational knowledge and skills relating to and recognising the signs and symptoms of trauma and how to intervene when faced with trauma-impacted youth (Treacy & Nohilly, 2020). With a dearth of review studies focusing on trauma-informed implementation in schools, it is essential to synthesise the existing literature to highlight

successful trauma-informed teaching pedagogies and programmes that raise awareness of both traumatic experiences, the emotional, behavioural, and social consequences of exposure as well as the most effective way to act in response. Therefore, this review examines the literature on whole-school trauma-informed practice, analyses findings, considers similarities and differences between programmes, highlights efficacious programmes, along with the sustainability of practice beyond implementation.

## **6.2. Methodology**

To answer the research questions, this review involved a narrative empirical synthesis as structured by the Evidence for Policy and Practice framework (EPPI-Centre, 2007).

According to this framework, this form of synthesis collates the results of empirical research in a narrative structure to support an overview of individual studies that are accessible to the reader (EPPI-Centre, 2007). This framework was selected for use for several reasons. First, the framework has been used widely within education studies assessing school well-being programmes. Second, the framework offers a protocol for systematic searches, study synthesis, quality appraisal, and how to draw conclusions and make recommendations, aiding the assessment of reliability and generalisability of findings. Last, the framework offers a practical approach to enable the use of research findings to inform policy and practice guidelines. The application of the protocol contained the following analyses: (1) identify the aims and context of the study, why it was conducted, and why was it relevant, (2) identify the research questions being asked, (3) evaluate the appropriateness of the research design to the research questions, (4) identify the type, setting, and location of the study, (5) identify the programme being evaluated, (6) identify the type of analysis conducted and whether analysis was conducted correctly, (7) assess the consistency of results reported, (8) assess whether results matched with the conclusions and whether the study added anything new, and lastly, (9) identify limitations and generalisability.

On 10 August 2021, 7 interdisciplinary databases were searched: Cochrane Library, ERIC, OVID Medline, Psychinfo, Web of Science, and Google Scholar, for papers from the period between January 2008 and August 2021 owing to the relative novelty of trauma-informed school interventions. Search items utilised in all databases included three concepts; 1) trauma: “trauma” OR “compassion\*” OR “trauma-informed” OR “trauma-sensitive” OR “trauma-aware” OR “toxic stress” OR “chronic stress” OR “ACE\*”. 2) AND school: “school” OR “whole-school”, OR “school-wide”, OR “school-based”. 3) AND model: “intervention” OR “framework” OR “model”, OR “program\*” OR “professional development”, OR “education”. This resulted in 470 possible papers to study (see appendix 33 for Diagram of Systematic Search). Exclusion criteria consisted of studies that did not provide training for personnel across the whole school, was not empirical research, was not school-based, and did not focus on trauma. Inclusion criteria consisted of studies that comprised of the 3 prerequisites of trauma-informed organisational wide approaches endorsed by SAMHSA (2014), e.g., whole-school professional development directly related to understanding the impact of trauma on student learning, adapted practice to reflect a more trauma-informed approach, and systems change inclusive of policy and procedure change to reflect a more trauma-informed environment. Of the identified research papers, this review included 6 studies for analysis.

### **6.3. Results**

The review sought to identify and analyse empirical literature that evaluated whole-school, trauma-informed approaches to teaching and learning. Table 6.1 provides a summary of the study design, target population, location, and type of intervention involved in the studies selected for review. Table 6.2 provides a summary of measures, analysis, approach, and outcomes of the same studies. The studies differed in purpose from decreasing trauma-symptoms in youth, increasing student engagement and success in school, promoting staff

wellness, integrating a cultural and equity lens to reduce racial disparities in disciplinary actions, improving student behavioural outcomes, assisting school personnel to become trauma-informed, teaching students new skills, evaluating the impact of training on staffs' understanding of trauma-informed care and, assessing the impact of training on teacher's skills, attitudes, practice, and behaviour. The six studies identified for this review were conducted between 2015 to 2021 and included five published papers (Avery, Morris, Jones, Skouteris, & Deppeler, 2021; Day, Somers, Baroni, West, Sanders, & Peterson, 2015; Dorado et al., 2016; Parris, Dozier, Purvis, Whitney, Grisham, & Cross, 2015; Perry & Daniels., 2016), and one Government report (Barton, Newbury, & Roberts, 2018).

### *Research Design*

The selected studies comprised a range of research designs. Single group, pre-post-test design (Day et al., 2015), multi-group and retrospective pre-post-test design (Dorado et al., 2016), qualitative, including focus group interviews at multiple time-points (Parris et al., 2015), and mixed methods, pre-post-test, exploratory pilot studies (Avery et al., 2021; Barton et al., 2018; Perry & Daniels, 2016). There were some commonalities in research design, and all were found appropriate to answer their respective research questions.

### *Population Sample and Study Locations*

Studies embodied a range of populations. They differed in size, location, and participants. Four studies were from the United States, located within low socio-economic areas targeting predominantly African American high-need populations (Day et al., 2015; Dorado et al., 2016; Parris et al., 2015; Perry & Daniels, 2016). Day et al., (2015;  $n = 70$  students) conducted their research with court-involved female students (age 14 – 18-year-old) at a public charter school. Dorado et al. (2016;  $n = 1243$  students,  $n = 175$  staff,  $n = 88$  students HEARTS therapy) conducted their research within three elementary schools and one

kindergarten school. Parris et al. (2015;  $n = 23$  staff) conducted research utilising focus groups and school incident reports in a secondary charter school on a residual care campus for youths placed by Child Protective Services for a variety of reasons including abuse/neglect, domestic violence, difficulties at school, and behavioural issues. Whereas Perry and Daniel's (2016;  $n = 32$  staff;  $n = 410$  students  $n = 17$  students in the CBITS) study was conducted in a Pre-K through to 8<sup>th</sup> grade public school. Avery et al. (2021;  $n = 54$  staff) conducted their study in three Catholic primary schools located in urban Victoria, Australia. Whereas Barton et al., (2018;  $n = 95$  staff) conducted their research in three primary schools in South Wales. The location of the studies crossed four states in the US with one in Australia and one in Wales. The studies shared some similarities such as being based in urban, low socio-economic areas. However, studies differed in sample size, location, and participant recruitment.

Table 6.1 Empirical studies: study designs, population, location, and intervention

Author (date)	Research design	Population	Location	Intervention
Day et al. (2015)	Single group pre-post-test design	$n = 70$ court involved female students	Michigan, USA	Modified HTL: Compassion, Resiliency, and Academic Success Model
Dorado et al. (2016)	Multi-group & retrospective pre-post-test design	$n = 1243$ students. $n = 175$ staff. $n = 88$ students in HEART psychotherapy	California, USA	The Healthy Environments and Response to Trauma in Schools (HEARTS) Model
Parris et al. (2015)	Qualitative, including focus groups & interviews	$n = 23$ teaching staff	Texas, USA	The Trust Based Relational Intervention (TBRI) Model
Perry and Daniels (2016)	Mixed-methods, pre-post-test, exploratory studies	$n = 410$ Pre-K – 8 <sup>th</sup> grade students. $n = 32$ staff. $n = 17$ students in the CBITS	Connecticut, USA	The New Haven Trauma Coalition (NHTC) Model
Avery et al. (2021)	Mixed-methods, pre-post-test, exploratory studies	$n = 54$ staff	Victoria, AUS	The Reframing Learning and Teaching Environments (ReLATE) Model
Barton et al. (2018)	Mixed-methods, pre-post-test, exploratory studies	$n = 95$ staff	Wales, UK	The ACE-Informed Whole-School Approach Model

### *Intervention*

Each of the six selected studies evaluated a different whole-school model: (1) The Heart of Teaching and Learning (HTL): Compassion, Resiliency, and Academic Success Model (Day et al., 2015); (2) The Healthy Environments and Response to Trauma in Schools (HEARTS) Model (Dorado et al., 2016); (3) The Trust Based Relational Intervention® (TBRI®) Model (Parris et al., 2015); (4) The New Haven Trauma Coalition (NHTC) (Perry & Daniels, 2016); (5) The Reframing Learning and Teaching Environments (ReLATE) Model (Avery et al., 2021), and (6) The ACE-Informed Whole-School Approach Model (Barton et al., 2018). Central to this review, all studies incorporated three of the prerequisites of trauma-informed organisational wide approaches defined by SAMHSA (2014); school personnel professional development, adapted practice, and systems change.

#### *Duration and Theoretical Perspective of Professional Development Training*

The duration of the professional development training varied across the studies. Day et al. (2015) presented HTL training over two half-days, with booster sessions occurring monthly over 2-hour periods spanning 6-months. The model encompasses ecological (Bronfenbrenner, 1977, 1986) and attachment theories (Bowlby, 1980). While Dorado et al., (2016) presented the HEARTS programme in half-day training with booster session occurring throughout the evaluation. However, it remains unclear how many booster sessions were offered. The model approach was grounded in the Trauma and Learning Policy Initiative's flexible framework (Cole, O'Brien, Gadd, Ristuccia, Wallace, & Gregory, 2005). The TBRI was presented by Parris et al. (2015) to school personnel over two days of training, this was followed with five days additional training aimed at the school principal, the superintendent of the charter school, and a behavioural specialist for the school, providing more depth and breadth of coverage to initial training. The model used ecological (Bronfenbrenner, 1977, 1986) and attachment theories (Bowlby, 1980). Whereas Perry and Daniels (2016) opted to utilise the two-day all-staff training that occurs prior to the start of the academic year for rolling out the

NHTC model. It remains unclear as to what theoretical perspective was used in the implementation of this model. The ReLATE model presented by Avery et al. (2021) offered a total of two-days of professional training. In addition to this, optional supplementary online materials were accessible to all staff to bolster content presented during the initial trainings. All schools completed the initial two-day training of ReLATE with options to uptake

Table 6.2 Empirical studies: measures, analysis, delivery, outcomes

Author (date)	Measures	Nature of analysis	Delivery/duration	Outcomes
Day et al. (2015)	Socio-demographics using student administrative data. Students Needs Survey. Child-Report of Post-Traumatic Symptoms (CROPS). Rosenberg Self-Esteem Scale. Perceptions of School-Climate	SPSS. Two-tailed Paired sample <i>t</i> -tests. Alpha level = .05. Effect sizes ( <i>d</i> )	Presented in 2 half-day trainings, with booster trainings occurring monthly over 2-hour periods at staff development meetings between October 2012 and May 2013.	Students needs showed a significant negative post-test decrease in the survival sub-scale. Decreases in trauma (CROPS) symptoms. No change in self-esteem. No change in school climate
Dorado et al. (2016)	Student demographics via student administrative data. HEARTS Programme Evaluation Survey. Child and Adolescent Needs and Strengths (CANS) Scale.	Two-tailed, within subjects paired sample <i>t</i> -tests. Alpha level = .05. Chi-square	The programme was presented in half-day trainings, with booster trainings occurring	Staff knowledge increased on all five items: trauma and effects = 57% increase, trauma and learning = 61%, practice = 68%, burnout = 65%, use of TIP = 49%. School engagement increased on the four items: ability to learn = 28%, time on task = 27%, time in class = 36%, attendance = 34%. After year 5 decreases in incidents = 87%, aggression = 86%, suspensions = 95%. Trauma symptoms decreased significantly.
Parris et al. (2015)	Administrative data on incidents. Interviews and focus group data taken at multiple time-points.	School incident reports.	Presented to all staff over two days. School principal, superintendent, and a behavioural specialist attended further five-day trainings.	After first year a 33% decrease in referrals for physical aggression. After year two a 68% decrease in referrals physical aggression, 88% decrease for verbal aggression, 95% decrease in disruptive behaviour. School staff reported noticeable improvement in student behaviour as well as improved school climate.
Perry and Daniels (2016)	Professional development survey. Qualitative questions on care-coordination after first year. Student satisfaction survey. UCLA PTSD Index	Mixture of non-validated surveys and validated and standardised PTSD assessment psychometrics. Pre-post-test analysis.	The programme was presented over two all-staff training days. Cohort of students received 3-day workshop series. CBITS offered to <i>n</i> = 17 students.	Staff training satisfaction = 97% Improved self-care = 38%. Recognise trauma better = 16%. Stress reduction techniques = 47%. Knowledge increase = 91%. Care-coordination improved the communication dynamic between school and families. Students reported understanding how to relax = 95%, trust = 92%, worry less = 91%.

Author (date)	Measures	Nature of analysis	Delivery/duration	Outcomes
Avery et al. (2021)	Interviews and focus groups, class observations. School Climate Assessment. Attitudes Towards Trauma-Informed Care (ARTIC) Scale. Staff training evaluation form.	Thematic analysis. Pre-post-test analysis.	All schools completed the initial two days of ReLATE professional learning, with a variable uptake for the three follow-up modules: School B – three days, School C – two days; School A – no attendance at the follow-up.	<p>Post-test CBITS showed an 83% decrease in overall symptom criteria. Though 70% met criteria for re-experiencing, 41% met criteria for avoidance, and 71% met criteria for increased arousal</p> <p>Themes from focus groups: Understanding of trauma, School-wide responses, Teacher Responses, Well-being of teachers, Impact of leadership.</p> <p>School-climate assessment found school A having focus on student well-being, safety, and community building. School B &amp; C more robust systems of support, distributive leadership, and positive behaviour supports.</p> <p>The school ranking lowest on the ARTIC pre-intervention made the greatest shifts on subscale scores post-intervention, with a statistically significant positive shift in responses to behaviour but a significant decrease in staff sense of self-efficacy at follow-up.</p>
Barton et al. (2018)	Pre- and post-training surveys. Interviews. Attitudes Towards Trauma-Informed Care (ARTIC) Scale.	Mixture of non-validated surveys and validated and standardised Chi-square, independent-samples t-test and one way ANOVA.	The training was delivered over three sessions, across three separate days, to individual schools as either an inset day or during twilight sessions.	<p>The ACE readiness tool = impactful form of self-evaluation which enabled schools to reflect on current provisions, alongside highlighting any gaps in these provisions to enable the school to adopt an ACE-informed approach.</p> <p>All staff enjoyed receiving the training and valued its interactive nature and particularly the delivery from a range of professionals.</p> <p>The ACE informed approach was positively received by all schools, with many recognising the contribution that wellbeing has in contributing to educational attainment.</p> <p>Post-training staff felt more confident to work in an ACE-informed way.</p> <p>It was widely accepted that this approach should be rolled out and delivered to schools across Wales.</p> <p>Following training the mean ARTIC scores significantly increased, showing improved attitudes towards trauma-informed care across all sub-scales. However, no significant improvements in ARTIC scores between completion of the first session and the last session.</p>

additional module content comprising of further booster sessions held over three additional days. ReLATE is underpinned by socio-ecological (Bronfenbrenner, 1994; Crosby, 2015), trauma (Bloom, 2016; Shore, 2009; Siegel, 2020), and behavioural theories and educational research (CASEL, 2012; Hattie & Donoghue, 2016; Masters, 2018). Lastly, Barton et al. (2018) implemented their pilot training of the ACE-Informed Whole-School Approach delivered over three sessions across three separate days. It remains unclear as to what theoretical perspective was used in the implementation of this model. Overall, the duration of professional development training along with the theoretical perspective used varied across programmes though some similarities were evidenced.

### *Measures*

Day et al. (2015) used student administrative data and surveyed students to assess if the model affected levels of trauma, self-esteem, learning, attitudes, and school climate. To evaluate their programme, Dorado et al. (2016) surveyed staff's perception of changes in knowledge, skills, and use of trauma-informed practices, as well as their perception of changes in students' engagement retrospectively. The authors also utilised disciplinary referral and suspension data to evaluate loss of teaching time due to disciplinary actions. Furthermore, Dorado et al. (2016) captured effects related to the provision of trauma-specific, culturally congruent therapy for trauma-impacted students based on the Attachment, Self-regulation, and Competency framework (Blaustein & Kinniburgh, 2017).

Parris et al. (2015) utilised school incident reports to determine whether TBRI implementation would affect behavioural outcomes of students as well as focus groups comprising of school staff to bolster quantitative findings. Whereas Perry and Daniels (2016) used surveys to assess training satisfaction, the authors qualitatively explored via reflection how to integrate care coordination into existing structures. Moreover, Perry and Daniels

(2016) surveyed students who participated in three-day workshop series focused on the exploration of the impact of stress on behaviour. Additionally, the authors assessed the presence and/or severity of PTSD symptoms in students who participated in the Cognitive-Behavioural Intervention for Trauma in the Schools (CBITS) programme.

Avery et al. (2021) used a suite of measures including interviews and focus groups, class observations, and observations of training sessions. Quantitative data were collected to assess the following outcomes: School climate, attitudes related to trauma-informed care, and staff training evaluation. Last, Barton et al. (2018) used both qualitative and quantitative measures to explore the impact of adopting an ACE-informed approach and how this may have impacted teacher skills, attitudes, practice, and behaviour. The researchers examined if programme participation resulted in increased trauma awareness amongst staff, and if this resulted in improvements in student achievement, attendance, and behaviour. Finally, the researchers aimed to develop an understanding of how the programme would be sustained long-term. Overall, two studies utilised quantitative data alone (Day et al., 2015; Dorado et al., 2016), while four studies used both quantitative and qualitative data to address their research questions (Avery et al., 2021; Barton et al., 2018; Parris et al., 2015; Perry & Daniels, 2016). Three studies incorporated school-based data (Avery et al., 2021; Dorado et al., 2016; Parris et al., 2015). All studies used quantitative data.

#### *Nature of Analysis*

The studies conducted were analysed through a mixture of quantitative and qualitative methods. Day et al., (2015) analysed their quantitative data using SPSS software. Matched data were available for analysis on students who completed both the baseline and post-test surveys. Two-tailed paired sample *t*-tests with an Alpha level set at .05 were utilised as well

as effect sizes calculated by Cohen's *d*. Cronbach's alpha for all measures ranged from .86 - .92. Descriptive statistics and frequencies were reported.

Also utilising SPSS software, Dorado et al. (2016) set out to evaluate four questions related to programme evaluation, three of which were analysed using two-tailed within-subjects paired sample *t*-tests with an Alpha level set at .05 as well as effect sizes calculated by Cohen's *d*. The remaining research question was answered using school incident reports analysed using Chi-square with an Alpha level set at .05 as well as effect sizes calculated by Cohen's *d*. Descriptive statistics and frequencies were reported.

Parris et al., (2015) used school incident reports at three time-points over two years to compare any changes to students' aggressive and disruptive behaviour following implementing the TBRI model. The authors also used a thematic approach to focus groups which were conducted 1 month prior to the second year of implementation, three months following the start of the second year, and one month following the second year of implementation. At the end of the second year of implementation, individual interviews were also conducted with the school principal, director of behavioural support staff (also interviewed in the focus groups), and the residential facility administrator with jurisdiction over the charter school. Descriptive statistics and frequencies were reported. The study claimed reliability and validity were established through triangulation of these three analyses.

To evaluate their four-pronged logic model Perry and Daniels (2016) used a mixture of non-validated surveys and validated and standardised PTSD assessment psychometrics. Descriptive statistics and frequencies were reported as well as some answers to open-ended questions asked during the application of the UCLA PTSD for DSM-IV adolescence version (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998).

A mixed-methods approach to analysis was conducted by Avery et al. (2021). The authors used the six-step process of Clarke and Braun's (2014) thematic analysis and utilised the practice framework of SAMHSA (2014) to provide the analytical frame to evaluate the focus group data. For the quantitative aspect of the study, the authors used psychometrics measuring staff attitudes imported into a preformatted excel spreadsheet. Data were then collated using the median function for school-wide scores for each of the subscales. The analysis proceeded to divide the scores into three benchmark ranges based on percentile marks: Thrive (75<sup>th</sup> – 100<sup>th</sup> percentile); Grow (25<sup>th</sup> – 75<sup>th</sup> percentile); learn (0 – 25<sup>th</sup> percentile). Descriptive statistics and frequencies were reported.

Finally, Barton and colleagues (2018) analysed their data using a mixed-methods approach. Quantitative analysis utilising SPSS software provided descriptive statistics, chi-square tests of association, independent samples t-tests and one-way ANOVA analysis with an Alpha level set at .05. However, the report does not include any data pertaining to the internal consistency of the scales used and effect sizes were not included in the analysis. Interviews were analysed using thematic analysis and which was completed on Atlas Version 7.5.15 software. In short, the studies selected for this review used mixed approaches with no two studies using the same method of analysis.

### *Study Aims and Outcomes*

Just as the intervention, research designs, and analysis differed, so too did the aims and study outcomes. Day et al. (2015) aimed to evaluate the effects of a modified version of the Heart of Teaching and Learning (HTL: Compassion, Resiliency, and Academic Success on levels of trauma, self-esteem, and student attitudes. The HTL was found to ameliorate symptoms of PTSD with a significant pre- post-test difference score indicating a medium positive effect. With self-esteem scores in the medium to high range pre-test, there was no significant change

post-intervention. Additionally, students felt that almost all teaching staff were responsive to their needs pre-intervention therefore there was no significant difference in student attitudes towards staff post-intervention. However, students' needs for survival increased rather than decreased over the 2 time-points.

Dorado and colleagues aimed to evaluate the effects of the Healthy Environments and Response to Trauma in School (HEARTS) model on student behavioural problems, and engagement in school in addition to increasing school staff knowledge of trauma and trauma-informed practice and, trauma-related symptoms in students who received HEARTS therapy. The HEARTS model showed a 32% decrease in behavioural incidents after year one, with a further decrease of 87% at five-year follow-up. Findings also showed significant positive changes in school engagement including items: ability to learn, time on task in class, time in class, and school attendance. Staff knowledge also showed increases across the following five items: knowledge about trauma and its effects increased by 57%, understanding how to better assist student learning increased by 61%, knowledge of trauma-informed practice increased by 68%, knowledge of secondary traumatic stress and burnout increased by 65% and, implementing trauma-informed practice in the classroom increased by 49%. In relation to trauma-related symptoms in students who received HEARTS therapy, significant improvements in adjustment to trauma, affect regulation, intrusions, attachment, and dissociation were reported by the authors.

In implementing the Trust Based Relational Intervention (TBRI), Parris et al. (2015) aimed to evaluate the effects the model had on behavioural outcomes. After the first year of implementation school referral data showed a 33% decrease in referrals for physical aggression or fighting with peers. After year two school referral data showed a 68% decrease for physical aggression, an 88% decrease in referrals for verbal aggression, and a 95% decrease in disruptive behaviour. Using data from focus groups comprising of teaching staff

and administrators the authors reported a noticeable improvement in student behaviour as well as an improved school climate including more positive mood among staff and students.

Perry and Daniels (2016) aimed to review the implementation of the delivery of their four-pronged logic model, the New Haven Trauma Coalition (NHTC) model consisting of helping teaching staff/community learn about trauma-informed practice, identifying students who required trauma-informed support, implementing school systems to provide trauma-informed care, and teaching students how to develop coping skills and strategies to respond to future stress. The authors reported a staff training satisfaction rate of 97%, with 47% of respondents learning new stress reduction skills, 38% responded to improving their self-care and, 16% more likely to recognise trauma. In relation to students in need of support, 95% of those identified increased their understanding of how to relax, with a further 92% trusting others and worrying less following classroom workshops. CBITS was implemented as the support system for students who met the criteria for PTSD, post-test scores demonstrated that 17% of students who participated still met the criteria for PTSD; 70% met reexperiencing criteria; 41% met the criteria for avoidance and 71% met the criteria for increased arousal.

In evaluating the impact of the introduction of ReLATE on educators' understanding of trauma-informed approaches and ability to recognise signs of trauma, as well as their capacity to implement the model including their perceptions of student and staff well-being Avery and colleagues (2021), reported the following findings: Staff at two schools were already showing strong positive attitudes to trauma-informed care at baseline, however, they still showed positive non-significant increases post-intervention. Additionally, the study showed that the school with the lowest ranking of attitudes related to trauma-informed care pre-implementation made the greatest significant positive shifts on scores post-implementation, though teacher self-efficacy showed a significant decrease at follow-up. Analysis of focus group data related to educator perceptions of the ReLATE model produced five themes

comprising of: understanding of trauma, school-wide responses, teacher responses to behaviour, well-being of teachers, and impact of leadership. Further discussion revealed another three themes: realisation of trauma motivated practice change, practice-change was influenced by perceived fit and school leadership, and positive response to iterative approaches to collaborate and co-design.

Finally, Barton et al. (2018) aimed to develop an understanding of how well their ACE-Informed Whole-School Approach model had been adopted into everyday practice, as well as the impact on staff knowledge and skills to trauma-informed practice, and further development needed for local and national roll-out. Therefore, the pilot explored the impact of the ACE readiness tool, examined if participants increased trauma awareness, and explored how being trauma-informed impacts on teacher skill, attitudes, practice, and behaviour. The authors listed secondary aims of developing an understanding of how the approach could be sustained in the long term. Reported outcomes suggest that the ACE readiness tool enabled schools to reflect on current provisions and highlighted gaps in provisions to enable the adoption of the model. Following implementation of the model, participants reported significant improvements in understanding the impact of stress and trauma on development, understanding underlying causes of disruptive behaviour, awareness of how to communicate and support trauma-impacted students, as well as increased positive attitudes towards working in a trauma-informed way. Furthermore, even though attitudes related to trauma-informed care significantly increased immediately following training, there were no significant improvements in this measure between completion of training to follow-up. Post-training, staff felt confident to work in a trauma-informed way and reported an improved understanding of the impact of ACEs on children. Nevertheless, there was some apprehension voiced regarding the ability of teaching staff to provide support to trauma-impacted students in the face of increasing responsibilities to meet academic standards set by the Welsh

Government. Last, the approach was widely accepted by participants and recommended to be rolled out and delivered to schools across Wales. However, for long-term sustainability it was recommended that the training be adapted for secondary schools to ensure age-appropriate material. Moreover, staff indicated a more collaborative approach to include outside agencies such as Early Help is needed as schools cannot sustain this approach in isolation. Staff therefore recommended support in the form of training to include parents and the whole community to become ACE aware and resilient. In short, the research highlighted above demonstrated that professional development staff training in trauma-informed practice had a positive impact on working with trauma-impacted students.

#### **6.4. Discussion**

The present review found that empirical research focused on the efficacy of whole-school trauma-informed teaching and learning are in their infancy. The few numbers of studies available for selection in this review are characterised by their diversity of intervention models. Some variability in aims, population, theoretical perspective, duration, measures, analysis, and outcomes were also identified. The only consistent feature within this selection of studies is their inconsistency. Due to the dearth of whole-school empirical studies and variability in approach, generalisation of the research findings may be premature at this point in time.

Nevertheless, there was some consistency in research design with five studies opting for pre-post-test designs (Avery et al., 2021; Barton et al., 2018; Day et al., 2015; Dorado et al., 2016; Perry & Daniels, 2016). Three studies utilised a mixed-methods approach to design (Avery et al., 2021; Barton et al., 2018; Perry & Daniels, 2016). With one study utilising focus group interviews only (Parris et al., 2015). No study on whole-school interventions to teaching and learning comprising this review used a control group, therefore, these studies are mainly exploratory with diminished ability to assess the efficacy of interventions.

Another commonality within the selected studies was that the professional development trainings was reported in all studies as both a catalyst for change, and fundamental to becoming trauma-informed thus raising awareness and motivation to implement trauma-informed practices. Professional development training within the selected studies were shown to improve attitudes of school personnel towards trauma-informed care, assist educators to reframe student disruptive behaviour, decrease punitive disciplinary practices, and avoid re-traumatisation of trauma-impacted students. School personnel also received training on secondary trauma and how to mitigate the onset of burnout through self-care which is consistent with trauma literature (Bloom, 2016).

There remains, however, some unanswered questions pertaining to definitions of successful trauma-informed training. Specifically, what components of training are most effective, how long should training last, and the impacts of trauma-informed training (Purtle, 2020). The effectiveness of trauma training on school practices may be reliant on factors such as how staff interpreted their ability to adopt a trauma-informed approach, with staff perceptions of ‘school fit’ ranking as the most influential factor when considering translating training into practice (Avery et al., 2021; McIntyre et al., 2019). The selected studies for this review found that empowering staff to be active participants in their training as well as allowing staff to voice challenges and systemic barriers they experienced led to staff acceptability and effective implementation of the intervention model. Permitting the consideration of the challenges staff encounter thus providing a sense of empowerment to these professionals correspond with SAMHSA’s (2014) empowerment and safety principles as well as the principle to respond to staff well-being.

All researchers were concerned with achieving outcomes based on compassion, safety, predictability, empowerment, collaboration, connection, and trust, underpinned by school personnel’s knowledge of trauma and stress behaviours. Policies in relation to disciplinary

practice were seen as key organisational changes which decreased disruptive behaviour incidences thus increasing classroom learning time. These changes consisted of the implementation of Theraplay training (Booth & Jemberg, 2009), Monarch Room, Dream Catcher Room, Sensory room, teaching appropriate behaviours for challenging situations, social skill practice such as using respect, making eye contact, using language to express feelings, allowing students to hydrate, eat snacks, use fidgets, and use earphones during lunch. Moreover, discipline changes concentrated on increasing empathy, self-regulation, improving relational connection, and championing ‘time in’ rather than ‘time out’ of class practices. Avoiding punitive measures while advancing more restorative, strength-based approaches is congruent with the literature on evidence-based trauma-informed interventions (Cole, Eisner, Gregory, & Ristuccia, 2013). Organisational level changes were bolstered by some form of care-coordination teams across the selected studies to sweep for trauma-impacted students in need and to improve the implementation based on collaborative insights to intervention. Parental/caregiver support, community involvement, and collaborative planning is acknowledged within the literature as best practice in trauma-informed approaches (SAMHSA, 2014).

Although the literature highlights the creation of whole-school climate change to positively impact all stakeholders, only one study measured this from the students’ perspective (Day et al., 2015) whereas Parris et al., (2015), Perry and Daniels (2016), and Avery et al. (2021) reported staff perceptions. There was no change in school climate perceived by students following implementation of the HTL in their school (Day et al., 2015). Following implementation of the TBRI, Parris et al. (2015) reported that staff perceived improved school culture including an overall more positive mood and countenance among both staff and students. Further, Perry and Daniels (2016) reported as the family’s interactions with the school were informed through a trauma lens, staff indicated positive changes in the

communication dynamic was perceived between the school and families following implementing the NHTC. Additionally, after ReLATE was implemented in three primary schools, Avery et al. (2021) reported an improved focus on student well-being, physical safety, and community building in school one, with school two reporting barriers including limited understanding of trauma, less cohesiveness, collaboration, and readiness for change, whereas the third school had more robust systems of support, a distributive leadership approach, and existing social-emotional and positive behaviour supports. Last, staff well-being was not measured in any of the selected studies even though this is considered an essential component in both the delivery and sustainability of trauma-informed approaches in schools (Bloom, 2016; Cole et al., 2013). Cole et al. (2013) highlights the provision of school environments that enable both students and staff alike to feel safe and supported to address the impact of stress and trauma.

### *Limitations*

This review focused on whole-school or school-wide trauma-informed approaches in the education system. It is possible studies that were not published or included ‘whole-school’, ‘school-wide’, ‘trauma-informed’, ‘school’, ‘programmes’ may have been overlooked if the title or abstract failed to reference these terms. Although not a limitation in methodology, the elimination of over 420 papers may raise some concerns. However, it is not uncommon to obtain high numbers of false positives following a detailed investigation. Additionally, because this review focused on published empirical research studies and reports, any studies present in grey literature may have been excluded. Another limiting aspect involves the search criteria being restricted to studies published in English, which may have precluded some international research of interest. Further, the EPPI-Centre (2007) protocols for narrative literature reviews are helpful and simple to follow, however, these protocols may have inadvertently excluded relevant research applicable to this type of review.

### *Future Research and Implications*

Accepting that the evidence for whole-school trauma-informed interventions to teaching and learning is limited, implications for future policy change are tentative and need further investigation. Schools that wish to implement whole-school empirical-based programmes need not only to identify such programmes but to evaluate their delivery as well. However, lack of, or absence of, funding as cited by three studies (Avery et al., 2021; Day et al., 2015; Perry & Daniels, 2016) may impede model delivery and data-collection opportunities, a limitation underscoring the importance of sufficient resources when embarking on evaluative research programmes. Additionally, bolstering the research design of future studies by the application of a control group, including larger samples, and evaluating programmes longitudinally could increase the power of any findings. Further, designing studies to be more inclusive of all stakeholder perspectives pertaining to intervention under evaluation could be extended beyond the consideration of school personnel, to all stakeholders especially students and their caregivers. Importantly, triangulation of multiple stakeholder perspectives could increase the accuracy and power of the results. Moreover, studies need to go beyond measuring attitudinal change in school personnel towards a trauma-informed approach to assess the impact in behavioural change of staff and the resultant impact on students.

There is also a need to develop psychometric tools that identify schools' strengths, weaknesses, and needs, and measure their progress in becoming more trauma-informed. Tools that can measure whether students, staff, and caregivers feel an improvement in school climate and an increase in safety and support within the school grounds will be an important aspect to consider in future studies. Moreover, ensuring the fidelity of intervention implementation is essential to measuring the successfulness of each input by its capacity to achieve associated outcomes (Perry & Daniels, 2016). One of the primary aims of schools has been to educate and nurture students to learn, therefore evaluating the impact of introducing a

trauma-informed approach on academic achievement will be an essential addition to any future research. Finally, measuring the cost-effectiveness of whole-school trauma-informed programmes is recommended for consideration in any ‘roll out’ of the approach (Barton et al., 2018). The present review demonstrates potential for future research. Given the various yet limited intervention programmes available, researchers interested in whole-school trauma-informed approaches have sufficient options from which to design their studies. Any of the studies selected for this review could be the foundation which the next study is built upon.

## **6.5. Conclusion**

The devastating impact of stress and trauma on student learning is well established and the interest in applying trauma-informed approaches to teaching and learning to ameliorate this impact is rapidly progressing. Research limitations and an overall dearth of empirical research on whole-school programmes indicate more evaluative research is warranted to establish which approaches lead to better outcomes for students and teachers alike. This review revealed some consistency in both research design, the use of professional development to create trauma-awareness among school personnel, perceptions based on school fit when considering adopting any approach, and empowering staff to voice challenges and systemic barriers experienced which led to greater buy-in and acceptability of the approach. All models also identified policies in relation to disciplinary practice as key organisational changes which decreased disruptive behaviour incidences. Acknowledging the pervasive and deleterious impact of stress and trauma, there is now an urgent need to establish sustainable, cost-effective, trauma-informed approaches in schools to advance and enhance cultures of safety, support, and healing, permitting all students every opportunity to experience good mental health and academic success.

The following empirical mixed-methods chapter will evaluate a whole-school, trauma-informed professional development pilot workshop. The purpose of the study was to investigate the benefits of professional development training in trauma-informed approaches on school personnel attitudes and compassion fatigue. As noted within this narrative review, there is a dearth of research on whole-school trauma-informed approaches and no research within the literature utilised a control group in the research design. In addressing this gap, the following empirical chapter is one of the first studies to utilise a control group in the research design to ensure findings are robust.

**Chapter 7.** An Evaluation of Whole-School Trauma-Informed Training Intervention among Post-Primary School Personnel: A Mixed Methods Study

## 7.1. Abstract

**Objective:** Students' ability to reach their potential in school - both behaviourally and academically – is linked to their educator's knowledge of child and adolescent development, childhood adversity and trauma, and how these impact learning and behaviour. However, teacher pre-service training programmes often offer inadequate instruction to meet the needs of trauma-impacted students. The purpose of this study was to investigate the outcomes of professional development training in trauma-informed approaches on school personnel attitudes and compassion fatigue. There is a paucity of research on whole-school trauma-informed approaches and most have methodological limitations via the absence of a control group. In addressing this gap, the study is one of the first to utilise a control group in the research design to ensure findings are robust.

**Method:** The study utilised a quasi-experimental wait-list control pre-post intervention design to evaluate the efficacy of trauma-informed professional development training. We compared attitudes and compassion fatigue among 216 school personnel (n=98 intervention, n=118 comparison) utilising the Attitudes Related to Trauma-Informed Care (ARTIC) scale and the Professional Quality of Life scale (Pro-QoL). Quantitative data were supplemented by qualitative focus group data.

**Results:** Findings demonstrated that school personnel within the intervention group reported significant improvements in attitudes related to trauma-informed care, and a significant decrease in burnout at 6-month follow-up.

**Conclusion:** Findings demonstrate that with minimum training on the dynamics of trauma, personnel attached to a school can become more trauma-informed and have more favourable attitudes towards trauma-impacted students and consequently be less likely to experience burnout.

## 7.2. Introduction

Neurodevelopmental science has demonstrated how exposure to childhood adversity such as abuse (i.e., sexual, physical, and psychological), neglect (i.e., physical, and emotional), household dysfunction (i.e., parental mental illness, substance misuse, domestic violence, and criminality) and adverse social environment categories such as bullying, discrimination, and socio-economic deprivation can significantly alter the child's ability to engage with classroom activities (Bradshaw, Goldweber, Fishbein, & Greenburg, 2012). These Adverse Childhood Experiences (ACEs) and other stressful events (i.e., illness, loss, and having close friends experiencing psychological difficulties) are closely linked to a multitude of psychological and physical problems in adulthood and additionally to concurrent problems with emotional, social, and cognitive development leading to a range of behavioural and psychological difficulties (Clark, Caldwell, Power, & Stansfeld 2010; Enlow, Egeland, Blood, Wright, & Wright, 2012; Felitti & Anda, 2010; MacLochlainn, Mallett, Kirby, & McFadden, 2021; McLaughlin, Sheridan, & Lambert, 2014).

Toxic stress from repeated and prolonged ACEs and other stressful events is theorised to be the primary driver of these problems and consequently has an enduring effect on the child's brain development (Burke, Hellman, Scott, Weems, & Carrion, 2011; Shonkoff et al., 2012). Children who experience toxic stress show signs of problems relating to the developmental areas of executive functioning such as attention, complex planning, impulse control, decision making, working memory, and social and behavioural modulation, extending to problems in emotional regulation, impulsivity, and communication (Cook et al., 2017; Shonkoff et al., 2012; Steiner, 2016; Van Dam et al., 2017). Indeed, and as the extant literature suggests, ACEs and other stressful events may contribute to low academic attainment, and conduct problems, leading to an increased risk of suspension, expulsion, absenteeism, and risky

behaviours (Bellis et al., 2018; Delaney-Black et al., 2002; Ford, Chapman, Mack, & Pearson, 2006).

Owing to this increased risk for impulsivity and conduct problems during the school day, some trauma-impacted students are often in conflict with their teachers (Fazel, Hoagwood, Stephen, & Ford, 2014). Difficult teacher/student relationships may in part be due to miscommunication stemming from the educator's limited understanding of a child's lived experience of trauma and its impact on teaching and learning (Gray, Wilcox, & Nordstokke, 2017; Wilson, 2019). Additionally, any staff with their own high level of ACEs and trauma history may be re-traumatised by student behaviour with teachers reporting that stress resulting from students' disruptive behaviour is central to experiences of burnout and reasons for leaving the profession (Fazel et al., 2014).

In schools across the UK and Ireland, teachers possess a limited understanding and awareness of the impact of trauma on student learning and behaviour and how to mitigate misbehaviour in the classroom (McKee & Dillenburger, 2009; Sitler, 2009). Teacher pre-service training programmes often offer inadequate instruction to meet the needs of trauma-impacted students (Brunzell, Stokes, & Waters, 2018; McInerney & McKlindon, 2014). Omitting adequate instruction from training programmes may result in teachers having a deficit in knowledge and skills and consequently developing challenging relationships with their students. Due to this lack of knowledge, students are assumed as being problematic, delinquent, or truant rather than vulnerable and in need of additional supports (Cole, Eisner, Gregory, & Ristuccia, 2013; Dorado, Martinez, McArthur, & Leibovitz, 2016; Moore, Marlene, & Holland, 1997).

Fortunately, and with the groundswell of ACE literature linking childhood trauma to a range of both proximal and distal negative outcomes, child welfare advocates have begun to encourage the implementation of whole-school trauma-informed practice (Thomas, Crosby,

& Vanderhaar, 2019; Wolpow, Johnson, Hertel, & Kincaid, 2009). Practice is viewed as being trauma-informed providing it promotes healthy, caring, and supportive relationships between students, teachers, and ancillary staff (Parker, Olson, & Bunde, 2019). Parker et al., (2019) outlined the benefits of nurturing relationships highlighting an increase in resilience, self-regulation, executive function, and interpersonal competence in traumatised youth. Trauma-informed practice requires a paradigm shift in perspective and attitude illustrated by not asking “*What is wrong with you?*” when a problematic behaviour occurs but rather asking /exploring “*What has happened to you?*” instead (Wolpow et al., 2009). This paradigm shift involves a refocus on understanding what has happened or is happening in the child’s life, rather than merely focusing on the behaviour (Kenny, Vazquez, Long, & Thompson, 2017; Weare, 2015). Trauma-informed approaches embody a holistic framework to realign organisational culture, policies, and practices to be aware of and sensitive to the desire to help alleviate pain and foster healing of traumatised individuals (McInerney & McKlindon, 2014; Webb et al., 2020).

Clinical research suggests that increasing school staff’s knowledge and understanding of trauma and trauma-informed practice leads to more positive attitudes towards trauma-informed approaches (Brown, Baker, & Wilcox, 2012). However, the bulk of trauma-informed evaluation research has been produced within education organisations in the US where provisions for trauma-informed practice were legislated for via the: *Every Student Succeeds Act* (ESSA, 2015). Whilst the US has embraced whole school trauma-informed approaches in schools, there is still a dearth of robust methods of evaluation; for example, no studies utilised a control group in their evaluations. Within the UK there has also been considerable interest in cultivating trauma-informed approaches across various systems and service settings (Bunting et al., 2019). In relation to schools, Education Scotland (2018) has espoused the need to integrate trauma-informed principles into already established

frameworks such as the Nurture approach which is a relational-based programme to support children and young people through a small number of trained personnel within the school (Education Scotland, 2018).

Another UK school-based programme that implemented trauma-informed approaches in education is the Attachment Aware Schools Programme (Fancourt & Sebba, 2018). This professional development programme better equips trained staff to meet the emotional needs of their students, however, as with the Nurture approach, training was only provided to a small number of staff within each participating school (Dingwall & Sebba, 2018; Fancourt & Sebba, 2018). Nevertheless, evaluations of these studies have identified areas to be targeted for the effective implementation of trauma-informed practice in schools. One specific area of recommendation was the professional development of all school personnel (not just teachers) as all school staff are involved in responding to behaviour (Dingwall & Sebba, 2018). This recommendation was in line with a recent meta-analysis indicating that interventions yield more successful outcomes when adopting a whole-school approach (Goldberg, Sklad, Elfrink, Schreurs, Bohlmeijer, & Clarke, 2019).

To our knowledge, within the UK and Ireland, only one study has been published on whole-school trauma-informed approaches within educational settings. Barton and colleagues (2018) piloted an ACE-informed whole-school approach as a feasibility study in 3 primary schools in Wales (Barton, Newbury, & Roberts, 2018). Despite the absence of a control group, the study highlighted the positive impact trauma-informed training can have on teaching staff. This gap in the literature offers this study the unique opportunity to evaluate the training of a whole-school trauma-informed approach in a post-primary school in N.I. In addressing this gap, the study will be one of the first to utilise a control group in the research design to ensure findings are robust. Notwithstanding the dearth of robust research designs evaluating the implementation of trauma-informed care (TIC) approaches within the

education system, the literature does demonstrate that TIC approaches can increase staff awareness of the impact of trauma, change staff perspectives and attitudes towards trauma-impacted students, and potentially lead to improved staff well-being (Kim, Crooks, Bax, & Shokoohi, 2021; Plumb, Bush, & Kersevich, 2016).

### Rationale

There is a growing concern related to high teacher attrition with research indicating that 25% of new teachers leave the profession in their first year (Aloe, Amo, & Shanahan, 2014). Specifically, stress resulting from being re-traumatised, being ill-equipped to deal with students' disruptive classroom behaviour, and lack of support systems within schools, have been highlighted as major factors leading to teacher burnout and reasons for leaving the profession (Fazel et al., 2014). Therefore, there is an urgent need to intervene to reduce re-traumatising and burnout in school staff, to increase staff understanding and awareness of the impact of trauma on student learning and behaviour and how to mitigate misbehaviour in the classroom, and to implement self-care and community-care strategies to assist school staff in their daily duties.

### *Aims and Objectives*

The overall objective of the study was to introduce all school personnel to trauma-informed practices to support vulnerable young people and to aid in the wellbeing of staff.

Therefore, the aims of the current study were to determine:

- (1) whether a 2-day professional development training (workshop) in trauma-informed approaches would change school personnel attitudes related to trauma-informed care post-workshop and if any changes made were maintained at 6-month follow up.

(2) whether the workshop influenced school personnel levels of compassion fatigue, e.g., burnout, and secondary traumatic stress (STS), and levels of compassion satisfaction (CSAT) at 6-month follow up.

### *Hypotheses*

- (1) It was expected that school personnel attitudes related to trauma-informed care would increase post-workshop and this increase would be maintained at 6-months follow up.
- (2) It was expected that levels of compassion satisfaction (CSAT), secondary traumatic stress (STS), and burnout of school personnel would significantly improve following implementing trauma-informed practice within the school.

### **7.3. Design and Participant Sample**

The study utilised a quasi-experimental wait-list control pre-post intervention design to evaluate the efficacy of a 2-day trauma-informed care workshop in one post-primary school in the Northwest region of Northern Ireland over a 6-month period (n=98). This school was experiencing high levels of suspensions and expulsions of students and staff were at a loss on how to intervene. Two post-primary schools in N.I (Mid-Ulster region) consented to participate as a waitlist control group. These schools, with similar demographics to the experimental group, indicated struggling with the rising levels of mental health issues amongst their students and were aware that some pupils had significant social problems. They were approached by the chief investigator (CI) and asked to participate in the study. Both control schools were invited to participate to ensure adequate matching participant numbers. Wait-list control participants (n=118) did not receive the intervention at this time (see figure 1). A waitlist control group is preferable to a control group that receives no intervention as

ethically it was considered important not to deny participants access to the trauma-informed compassionate schools' workshop (TICS). All school personnel were invited to participate.

Figure 7.1: Design and Data Collection Time Points

<b>Data Collection Time Points</b>				
<b>Intervention Group</b>	*Time 1	Get TICS	**Time 2	***Time 3
<b>Waitlist Control Group</b>	*Time 1	N/A	N/A	***Time 3 Get TICS 3
*Baseline/Pre-intervention = Time 1 (before TICS)				
**Post-intervention = Time 2 (immediately after TICS)				
***Six-month follow up = Time 3				

**Analysis Plan**  
 Compare intervention group using Time 1, Time 2, and Time 3 data  
 Compare waitlist control group using Time 1 and Time 3 data  
Compare both the intervention with the control group using Time 1 and Time 3 only

### *Ethical Approval Procedures*

Ethical approval was granted in accordance with regulations in relation to research governance in Ulster University on studies involving human participants (REC.20.0053). Consent to undertake the study within the school environment was initially provided by the school principals. Prior to the commencement of the workshop, all participants in both the intervention group ( $n=98$ ; age range: 29 – 64 years:  $M = 46.55$ ,  $SD = 7.70$ ) and waitlist control group ( $n=118$ ; age range: 22 – 66 years:  $M = 41.91$ ,  $SD = 11.02$ ) received an information pack containing a participant information sheet (PIS) outlining the purpose of the study and a consent form to sign. All data provided was anonymous and was treated in a confidential manner and retained securely in line with Ulster University research governance protocols on retention and storage of personal data. Participation was voluntary, and individuals were aware they could withdraw from the study at any point without consequences from their employer. In the case of withdrawal from the study, the research team agreed not to retain any previously collected data from the withdrawn participant in line

with data protection legislation. Within the participant information sheet, participants were advised that if they experienced psychological distress as a result of the study to consult sources of further advice from organisations such as Lifeline, Samaritans, or the Employee Assistance Programme which was included in the staff care policy in their school.

#### **7.4. Methodology**

##### *Data Collection*

The pre-workshop survey consisted of participants (n=216; see table 1) completing a series of demographic items, compassion satisfaction (CSAT) and compassion fatigue measures as well as the 35-item version of the Attitudes Related to Trauma-informed Care scale (ARTIC) (see measures section). Written instruction for completion was printed on each questionnaire, and participants were given verbal instruction by the research team. To ensure confidentiality staff were assigned a unique identifier which was the last four digits of their mobile phone. Demographic information such as age, gender, ethnicity, staff role, duration within the profession, and any previous trauma training were also collected. Immediately following the 2-day workshop, school personnel participating within the intervention group were surveyed again (post-intervention training: time 2, see figure 1) to determine any variation in attitudinal change attributed to the workshop (n=75). Finally, both the intervention group and control group were surveyed once more after 6 months (time 3) to determine if any changes were maintained over time (n=65).

##### *Teacher Professional Development Workshop*

The workshop comprised of psychoeducation surrounding the nature and impact of trauma along with the nature and impact of compassion through the principles and domains of the Compassionate Schools (CS) approach. *The Heart of Learning and Teaching Handbook* (Wolpow et al., 2009) was utilised in this study as the main instructional material. The

handbook contains valuable information for teachers who work with trauma-impacted youth daily. This resource was grounded in evidence-based findings from existing resources and programmes. CS benefits related to school staff include, increased job satisfaction and performance, increased self-care and well-being, improved ability to apply trauma-informed teaching and increased knowledge of learning architecture and pedagogy (Hertel, Frausto, & Harrington, 2009). The material remains free to use and can be easily integrated into other schoolwide programmes (Anderson-Ketchmark & Alvarez, 2010). The handbook module content presented in the workshop comprised; a) an introduction to trauma-informed compassionate schools programme, b) information on how trauma impacts a child's ability to learn, c) the goals of a trauma-informed compassionate school, d) self-care guidance for teaching staff, e) trauma-informed classroom strategies, and f) the importance of community engagement. The Chief Investigator assisted by the research team adapted and consolidated the materials into PowerPoint presentations which were delivered by members of the research team trained in TIC.

In addition, the presentation explored the nature and impact of compassion and how behavioural displays of compassion may be a protective factor impacting on student resilience. The scientific and theoretical foundation for Compassionate Schools (CS) is found within the increasing volume of literature on trauma and complex trauma. CS aims to improve the social and emotional learning, and academic skills of students, while simultaneously increasing well-being within staff (Hertel et al., 2009). Teacher compassion equates to feelings of empathy and respect for students who experienced trauma and adversity accompanied by the intention to alleviate pain and foster healing (Axelsen, 2017). Similar to other models, CS included management consultation comprised of several meetings and culminating in a strategy to modify and adapt the schools' student behaviour

management policy, procedures, and practices towards a more trauma-informed approach.

Management consultation remained ongoing for one full academic year.

### *Focus Group Interviews*

Seventeen members (71% female) of teaching staff including pastoral care staff within the intervention school were interviewed using a semi-structured framework. Focus group interviews were carried out in two sittings lasting more than an hour each for both practical reasons, and to encourage shared reflections on their experiences three months following the professional development training in Compassionate Schools (CS) (Wolpow et al., 2009). A mixed-methods approach was selected to give voice to teaching staff and to ensure quantitative findings were grounded in participants' experiences. Data were analysed using reflective thematic analysis based on Braun and Clarke's six-phase framework (Braun & Clarke, 2006). The data were derived from semi-structured interviews, where the interview schedule was designed to explore teachers' understanding of childhood trauma, work-related changes following training, personal growth, perceived barriers to implementation, self-care, and suggestions to improve training. Participants were recruited through a direct approach at the school and interviews were carried out on-site. All participants were informed that they would be referred to by pseudonyms in all accounts of analysis to protect their anonymity. Participants were instructed to talk openly and at length on each topic. Focus group interviews were recorded using an iPad video/audio app along with an audio recording device on an android mobile phone app as a backup. Interviews were then transcribed verbatim onto MS Word.

### *Measures*

#### *Attitudes Related to Trauma-informed Care Scale*

Evidence of systems being trauma-informed depends on the extent of moment-to-moment, day-to-day behaviour of its personnel (Metz, Blasé, & Bowie, 2007). Attitudes related to trauma-informed care are believed to be a major catalyst of this behaviour (Baker et al., 2016). Based on exploratory research in professional training, behaviour change, and programme implementation, trauma-informed approaches have the potential to transform behaviour by means of knowledge and attitude change. The ARTIC scale is a direct, efficient, and cost-effective measure of attitudes applicable for school staff and other systems assisting trauma-impacted individuals (Baker et al., 2016). Within the intervention group in this study, attitudes related to trauma-informed care were measured at three time-points (see fig. 1). This psychometric test was designed for use in schools implementing trauma-informed interventions. The scale can be used to measure the readiness of school staff to implement trauma-informed practice, any barriers present, and attitudinal change following intervention. The ARTIC includes a series of self-reported Likert items scaled from 1 to 7 across five subscales including; 1) underlying causes of problem behaviour and symptoms - with a sample item – *Students are doing the best they can with the skills they have*; 2) responses to problem behaviour and symptoms – with a sample item – *Students need to experience real-life consequences in order to function in the real world*; 3) on-the job behaviour – with a sample item - *Being upset doesn't mean that students will hurt others* ; 4) self-efficacy at work – with a sample item -*Each day is uniquely stressful in this job*; and 5) reactions to work - with a sample item – *When I feel myself “taking my work home,” it's best to bring it up with my colleagues and/or supervisor(s)*, with higher scores reflecting more positive attitudes towards developing trauma-informed practice. In this study the overall scale demonstrated good internal consistency  $\alpha=.87$  (time 1) and  $\alpha=.92$  (time 3).

### *Professional Quality of Life Scale*

People who work in helping professions assist individuals or communities in times of crises. Helpers are located in the health care system, legal system, and educational system (Stamm, 2010). The Professional Quality of Life Scale is the most used scale to measure both the positive and negative effects of assisting trauma-impacted individuals (Stamm, 2010). Within this study, data were collected (see fig. 1) to measure compassion satisfaction (CSAT) and compassion fatigue (i.e., burnout and secondary traumatic stress) using the Professional Quality of Life Scale (ProQol; Stamm, 2010). The ProQol is a quality that people feel and attribute to their work (Yadollahi, Razmjooei, Jamali, Niakan, Ghahramani, 2016).

Influenced by both positive and negative affect of helping others who have experienced trauma, the ProQol measures compassion satisfaction (CSAT) and compassion fatigue. CSAT relates to the pleasure derived from being able to do your work well. Compassion fatigue was split into two parts – behavioural burnout, represented by exhaustion, frustration, anger and depression, and – secondary traumatic stress (STS), represented by negative feelings driven by fear and work-related trauma (Stamm, 2010). Employing 30 self-report Likert items, scaled from 0 to 5 with 0 = never and 5 = very often, the ProQol is split into three subscales of ten items each addressing dimensions of CSAT – with a sample item, *I feel invigorated after working with those I [help]*; STS – with a sample item, *I find it difficult to separate my personal life from my life as a [helper]*; and behavioural burnout – with a sample item, *I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help]*. In this study, the 3 subscales demonstrated good internal consistency with Cronbach's alpha values in the range (.74 - .89) at time 1 and (.74 - .88) at time 3.

## *Data Analysis*

### *Quantitative Analysis*

Collated data were coded, cleaned, and prepared for analysis and entered onto a password-protected file using IBM SPSS V.25 statistical software. To ensure data accuracy, pre-analysis was conducted to assess any missing data and extreme values within the dataset. A paired sample model was used. To achieve power of .95 with alpha at .05 with an effect size Cohen's  $d = .5$ , G-Power estimated that a sample size of 45 was required to detect a group by time interaction effect. To check the adequacy of fit of the data, tests were conducted to ensure the assumptions of the given statistical procedure were met.

A battery of paired samples  $t$ -tests were conducted to address research questions 1 and 2. A two-tailed  $t$ -test was conducted to evaluate the impact of the workshop on staff attitudes about trauma-informed care and if any change in attitudes were maintained at 6-month follow up. In addition, paired-samples  $t$ -tests were also conducted to evaluate whether measures of compassion satisfaction (CSAT) and compassion fatigue of all school personnel participating in the workshop changed significantly following implementing trauma-informed practice within the school. This analysis was suitable for this study because it established whether there was a significant change in paired means at each time point (Mertler & Reinhart, 2016).

The mean ( $M$ ) and standard deviation ( $SD$ ) of pre-workshop, post-workshop, and 6-month follow up for each of the ARTIC outcome variables are presented in Figures 7.2 and 7.4.

Following this, a series of Mixed repeated measures analysis of variance (ANOVAs) determined whether the mean changes in outcomes from time 1 to time 3 (i.e., 6-month follow up) differed between the intervention and waitlist control group. The independent variable, treatment group, was categorised into two groups i.e., intervention group and

waitlist control group. The dependent variables consisted of ARTIC-35, compassion satisfaction, and compassion fatigue.

Mixed ANOVA assumptions were tested satisfying the requirements of *t*-test analysis prior to hypotheses testing (Mertler & Reinhart, 2016).

### *Qualitative Analysis*

Focus group data were analysed using reflective thematic analysis based on Braun and Clarke's six-phase framework (Braun & Clarke, 2006) because of its flexible methodology and potential to provide enriched and detailed accounts of data. Following transcription by the first author, the data were printed for further analysis using an inductive approach described by Hayes (2000). The data were repeatedly read searching for meaning and/or patterns before the coding process commenced. The first author began taking notes and marking ideas for coding. The next phase of analysis involved the process of coding and data were organised into meaningful groups. All data extracts were coded and collated and represented an overall conceptualisation of data patterns. The next stage of the process involved sorting the existing codes into potential themes. The use of mind-maps aided in the production of a thematic map that comprised candidate themes. Following this stage, themes were reviewed at the level of coded extracts to ensure the candidate themes adequately represented the coded data. Next, the validity of individual themes was considered in relation to the data set and whether candidate themes accurately represented the meanings evident in the whole data set. At this stage, themes were further defined and redefined. The first and second authors analysed the transcripts, coded extracts, and potential themes, any disagreements in interpretation were resolved through consensus. Themes were constructed at a semantic level, acknowledging concepts directly conveyed by participants, though consideration was afforded to possible latent concepts.

## 7.5. Results

### *Quantitative Results*

Descriptive statistics provided the analyst with percentages of males and females within the study, mean age of participants, ethnicity, school role, duration within the profession, and any previous trauma training (see table 1). The age of participants within the intervention sample ranged from 29 to 64 ( $M = 46.55$ ,  $SD = 7.70$ ). Females accounted for 71.4% of the sample. The sample consisted of 90.8% Caucasian. Most participants indicated their role within the school as teaching and learning support (77.6%) with participants indicating having been in the profession for over 15 years (71.4%) and having previously attended trauma-related training (25%). The mean age of participants within the waitlist control group ranged from 22 to 66 ( $M = 41.91$ ,  $SD = 11.02$ ). Females accounted for 72.9% of the sample. The sample consisted of 86.2% Caucasian. Most participants indicated their role within the school as teaching and learning support (78.8%) with half of the participants indicating having been in the profession for over 15 years (51.7%) and having previously attended trauma-related training (13.6%).

Table 7.1. Demographics of Intervention and Control Groups

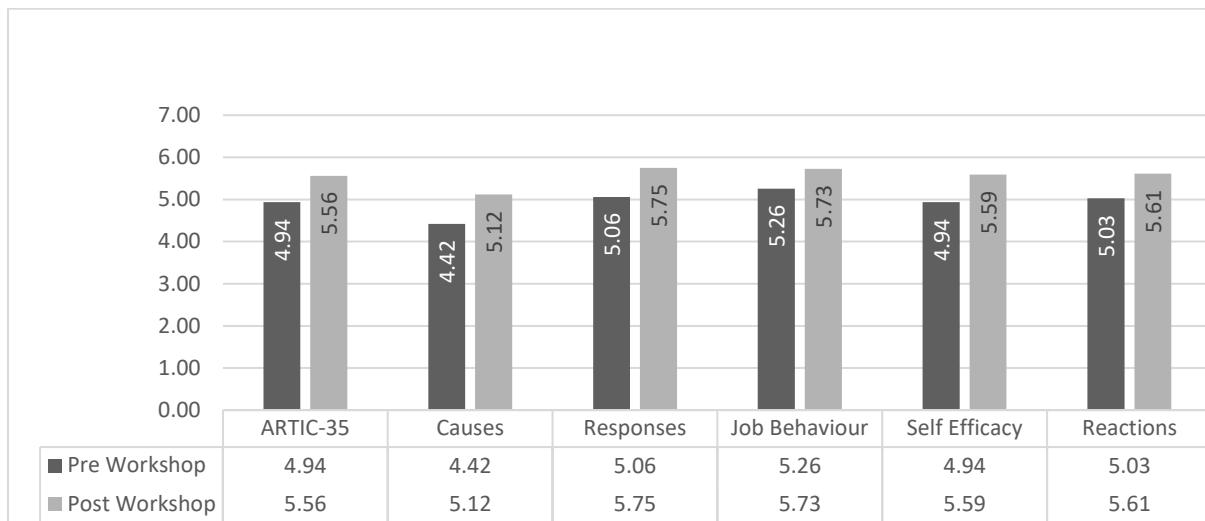
	n	Minimum	Maximum	M (SD)
Age	216	22	66	44.01 (9.91)
Intervention	98	29	64	46.55 (7.70)
Control	118	22	66	41.91 (11.02)
		<b>Intervention n (%)</b>		<b>Control n (%)</b>
Gender				
Male	55	28 (28.6%)		27 (22.9%)
Female	156	70 (71.4%)		86 (72.9%)
Prefer not to say	5	-		5 (4.2%)
Role				
Administration	24	8 (8.2%)		16 (13.6%)
Facilities	8	6 (6.1%)		2 (1.7%)
Student support	15	8 (8.2%)		7 (5.9%)
Teaching Support	169	76 (77.6%)		93 (78.8%)
Duration				
0-2 years	13	3 (3.1%)		10 (8.5%)
3-7 years	28	6 (6.1%)		22 (18.6%)
8-14 years	44	19 (19.4%)		25 (21.2%)
Over 15 years	131	70 (71.4%)		61 (51.7%)
Any previous training				
Yes	32	21 (21.4%)		11 (9.3%)
No	132	63 (64.3%)		69 (58.5%)
Missing	52	14 (14.3%)		38 (32.2%)
Ethnicity				
Caucasian	189	89 (90.8%)		100 (84.6%)
Asian	1	1 (1%)		-
Other	12	3 (3.1%)		9 (7.7%)
Prefer not to say	12	5 (5.1%)		9 (7.7%)

### *Attitudes Related to Trauma-Informed Care: Time 1 vs Time 2 Intervention Group*

#### *Overall ARTIC*

A paired-samples *t*-test (see figure 7.2) was conducted utilising intervention group data to compare overall levels of attitudes related to trauma-informed care reported by school personnel immediately before and again immediately following the two-day workshop ( $n = 75$ ). There was a significant positive increase from pre- ( $M = 4.94$ ,  $SD = .53$ ), to post ( $M = 5.56$ ,  $SD = .58$ ) scores for overall ARTIC scores,  $t (74) = -11.70$ ,  $p < .001$ ,  $d = 1.35$ .

Figure 7.2: Time1/Time2 means of ARTIC scales pre and post workshop for the intervention group (n=75)



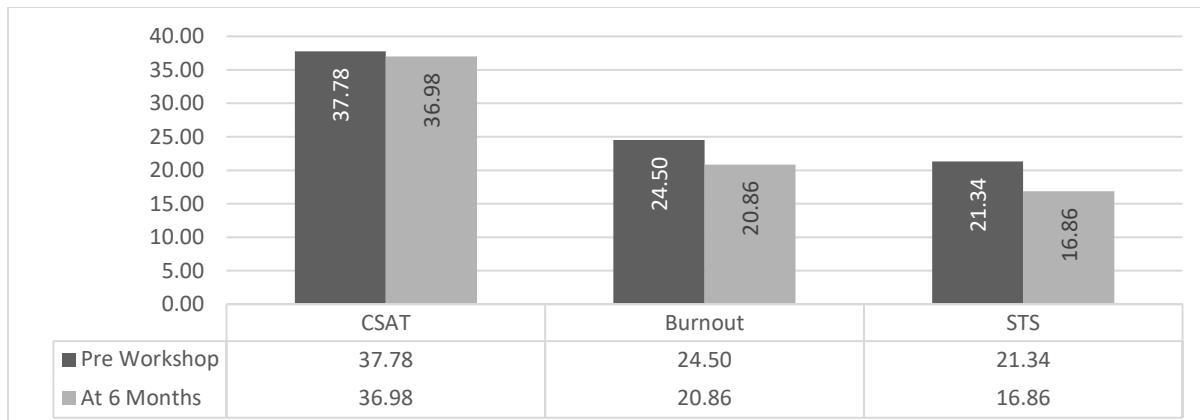
\*Note: ARTIC scale and subscale scores reflect the mean of the relevant items (range 1-7)

In addition, there was a significant positive increase in all ARTIC-35 subscales from pre to post training (see figure 7.2).

#### *Compassion Satisfaction/Fatigue Time 1 and Time 3 Intervention Group*

A paired-samples *t*-test (see figure 7.3) was conducted utilising intervention group data to compare levels of burnout reported by school personnel immediately before the two-day workshop and again at 6-month follow up ( $n = 50$ ). There was a significant decrease from pre ( $M = 24.50$ ,  $SD = 4.89$ ), to post ( $M = 20.86$ ,  $SD = 4.34$ ) scores for burnout,  $t (49) = 7.51$ ,  $p < .001$ ,  $d = 1.06$ . Additionally, there was a significant decrease from pre ( $M = 21.34$ ,  $SD = 5.63$ ), to post ( $M = 16.86$ ,  $SD = 3.77$ ) scores for STS,  $t (49) = 8.60$ ,  $p < .001$ ,  $d = 1.21$ .

Figure 7.3: Time1/Time3 means of ProQol subscales of the intervention group (n=50)



\*Note: ProQol subscale scores reflect the sum of all items (range 0-50) Note. CSAT = Compassion Satisfaction. STS = Secondary Traumatic Stress.

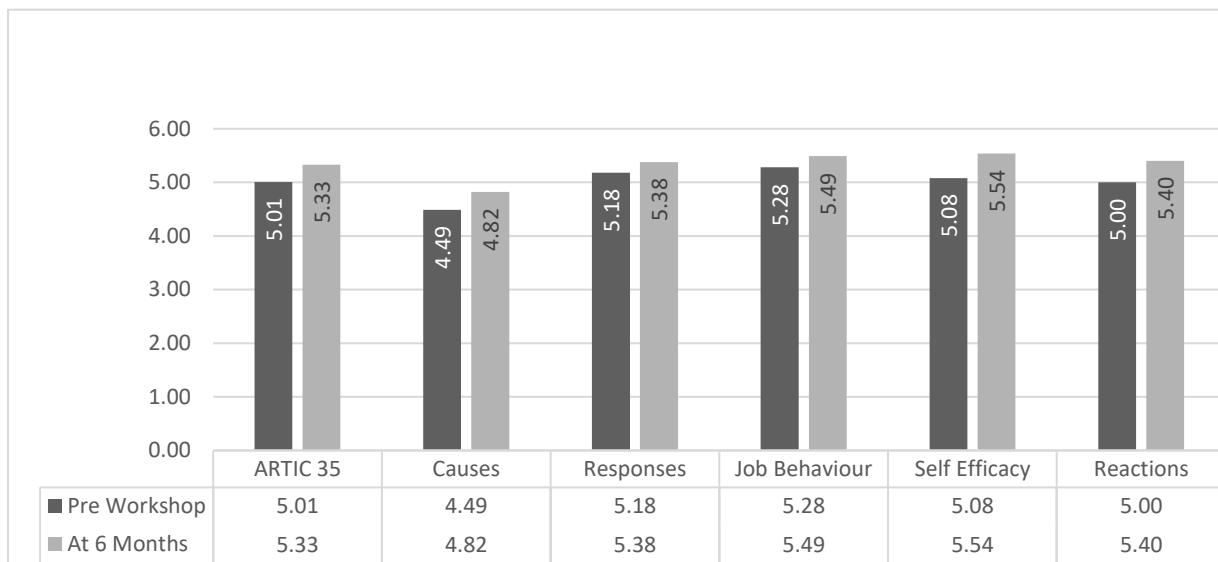
#### *Attitudes Related to Trauma-Informed Care: Time 1 and Time 3 Intervention Group*

##### *Overall ARTIC*

A paired-samples *t*-test (see figure 7.4.) was conducted utilising intervention group data to compare overall levels of attitudes related to trauma-informed care reported by school personnel immediately before training and again at 6-month follow up ( $n = 65$ ). There was a significant positive increase from time one ( $M = 5.01$ ,  $SD = .58$ ), to time three ( $M = 5.33$ ,  $SD = .63$ ) scores for overall ARTIC scores,  $t (64) = -6.43$ ,  $p < .001$ ,  $d = .79$ .

There was also a significant positive increase in all ARTIC-35 subscales from pre-training to 6-month follow up (see figure 7.4.).

Figure 7.4: Time1/Time3 means of ARTIC scales pre- and 6-months following the workshop for the intervention group (n=65).

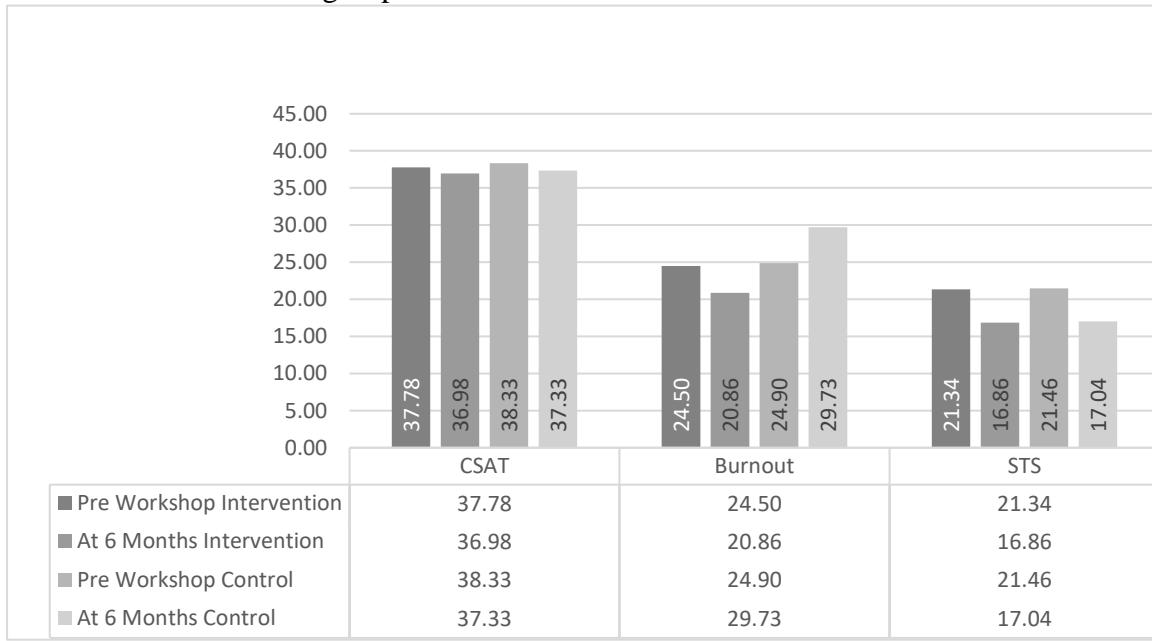


Note: ARTIC scale and subscale scores reflect the mean of the relevant items (range 1-7)

#### *Intervention versus Control Group (Time 1 v Time 3)*

A 2 (time) x 2 (treatment) mixed ANOVA comprising of both intervention and waitlist control data revealed a significant time x treatment interaction effect for burnout  $F(1,100) = 69.09, p < .001, \eta_p^2 = .41$  (see figure 7.5.). Examination of cell means, and Bonferroni corrections indicated a significant reduction in burnout scores from time 1 ( $M = 24.50$ ) to time 3 ( $M = 20.86$ ) within the intervention group  $t(100) = 5.01, p < .001$ . In contrast, a significant increase in burnout scores from time 1 ( $M = 24.90$ ) to time 3 ( $M = 29.73$ ) within the control group was observed  $t(100) = 6.77, p < .001$ .

Figure 7.5: Pre-workshop and 6-month follow-up mean ProQol scale scores of the intervention and control groups

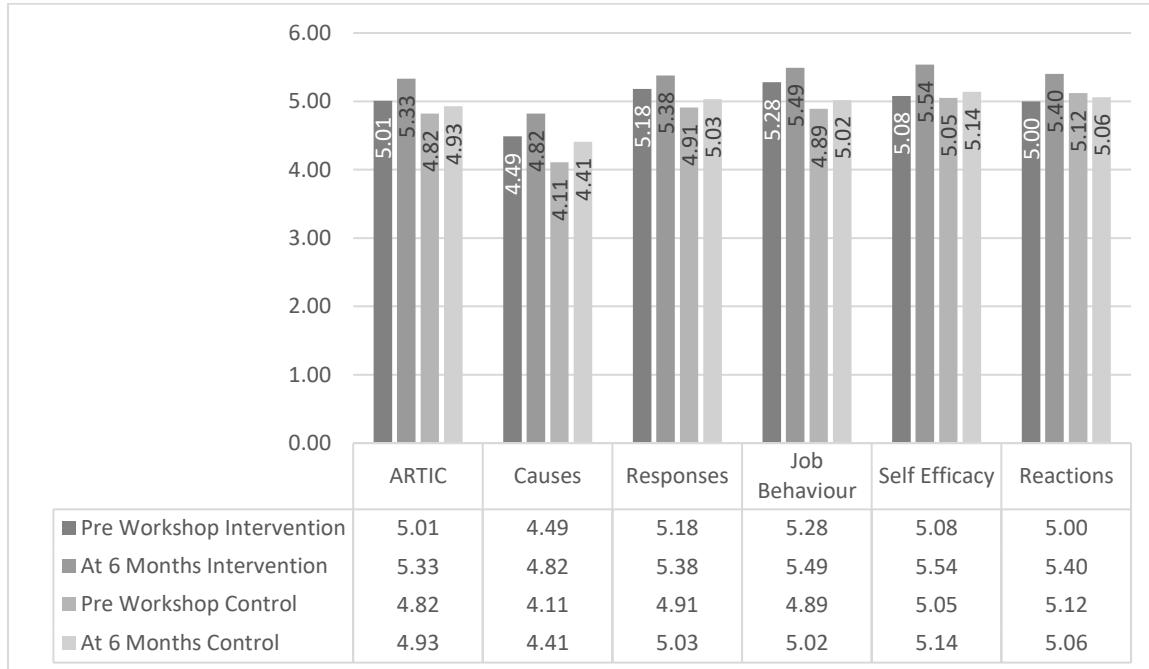


Note: CSAT = Compassion Satisfaction. STS = Secondary Traumatic Stress.

### *Overall ARTIC*

A 2 (time) x 2 (treatment) mixed model ANOVA comprising of both intervention and waitlist control data revealed a significant time x treatment interaction effect for the overall ARTIC-35 scale  $F(1,113) = 4.56, p = .04, \eta_p^2 = .039$  (see figure 7.6.). Examination of cell means, and Bonferroni corrections indicated a significant increase in scores from time 1 ( $M = 5.01$ ) to time 3 ( $M = 5.33$ ) within the intervention group  $t(113) = 5.10, p < .001$ , and no significant change from time 1 ( $M = 4.82$ ) to time 3 ( $M = 4.94$ ) within the control group  $t(113) = 1.64, p = .10$ . Thus, when comparing time 1 to time 3, the intervention group demonstrated significantly higher ARTIC scores at six-month follow up whereas there was no change within the control group at this time.

Figure 7.6: Pre-workshop and 6-month follow-up mean ARTIC scale scores of the intervention and control groups.



Note: ARTIC scale and subscale scores reflect the mean of the relevant items (range 1-7).

### *Self-Efficacy at Work*

Next, the ANOVA revealed a significant time x treatment interaction effect for self-efficacy at work sub-scale  $F(1,113) = 6.66, p = .011, \eta_p^2 = .056$ . Examination of cell means, and Bonferroni corrections indicated a significant increase in scores from time 1 ( $M = 5.08$ ) to time 3 ( $M = 5.54$ ) within the intervention group  $t(113) = 4.78, p < .001$ . However, there was no significant change from time 1 ( $M = 5.05$ ) to time 3 ( $M = 5.14$ ) within the control group  $t(113) = 0.78, p = .44$ .

### *Reactions to the Work*

Further, ANOVA revealed a significant time x treatment interaction effect for reactions to the work subscale  $F(1,113) = 13.00, p < .001, \eta_p^2 = .10$ . Examination of cell means, and Bonferroni corrections indicated a significant increase in scores from time 1 ( $M = 5.00$ ) to

time 3 ( $M = 5.40$ ) within the intervention group  $t(113) = 4.74, p <.001$ . However, there was no significant change from time 1 ( $M = 5.12$ ) to time 3 ( $M = 5.06$ ) within the control group  $t(113) = 0.07, p = .51$ .

### *Qualitative Focus Group Findings*

The teaching staff participating in the focus groups were interviewed by Dr Karen Kirby and Justin MacLochlainn of Ulster University. The purpose of the focus groups was to talk openly about teachers' own experiences following the implementation of the Compassionate Schools framework. The data were derived from a semi-structured interview about their understanding following the training, how they felt about work-related changes following training, personal growth, barriers related to implementing the framework, self-care, and suggestions on how to improve the training. Participants were instructed to talk openly and at length on each topic. In order to protect anonymity teachers were coached to use pseudonyms. A bottom-up approach was used, and the themes emerged from the coding of the data. The four themes that arose from the data namely, *Challenges, Self-Care, Outreach, and Role adaptation*. This section will demonstrate with the use of selected extracts how these themes relate to the teachers' experience following implementation of the Compassionate Schools framework.

#### *Challenges:*

Participants were asked if any barriers were present to implementing any aspect of the CS framework in the school. Joan was first to respond and immediately conveyed the pressures teaching staff were operating under such as, getting grades, percentages up, all the while working hard with trauma-impacted youth to improve outcomes for these students:

Joan: (clears throat) “*We still, we still have to get results, we still have to get GCSE grades, we still have to get up percentages, we still have to work hard with kids who maybe, the trauma is impacting on coursework and exams results and that kind of thing*”.

Applying a deeper systemic analysis, Dave points out that the conditions teaching staff were currently operating under were caused by political decisions such as budget cuts and class size increases:

Dave: “*I do think just the pressures that are on staff, all staff, is continually, just year by year just increasing, and it's nothing to do with anything else apart from (pause) budget cuts, higher class numbers, all the usual things and it's, it's stuff that's been forced upon you, you know ....*”.

Emily confirmed that teachers were struggling with finding solutions to classroom disruption and struggling with implementing the behaviour management policy and called for more support from senior leadership within the school:

Emily: “*.... erm, as a whole school approach, I find that we're still struggling, we're still struggling to find what works and what doesn't work, you know certainly erm, staff are trying their very, very best but I think the support of the behaviour management and things like that maybe isn't as firm and strong as it could be*”.

The above extracts underline the theme “Challenges” illustrated by the pressure teaching staff within post-primary schools are operating under in N.I. Some staff felt disempowered in the face of relentless austerity imposed by educational policy, whereas others alluded to the perceived lack of support from senior leadership in implementing the behaviour management policy.

#### *Self-care*

Next, participants were asked what they had, or what the school had introduced as strategies to prevent or alleviate staff stress. Zoe indicated support from her peers but alludes to feelings of abandonment when she implies that senior management were not taking self-care of their staff seriously:

*Zoe: “I think we help each other but further up I don’t think they see us; they see us with getting on with our work or getting on with, you know, the reports you’re marking or your grades... (interrupted) ”.*

Chris interrupts with some perceived discontent aimed towards senior management regarding care of teaching staff:

*Chris: “.....there was one occasion where we were told to go for self-care for half a day, but we were told on that day, so you can’t really organize anything or, you know, it was great to get it but it would be nice to be told in time so you could plan something”.*

Bernadette explains how her department safeguards teaching staffs’ health by meeting up and talking through any ongoing concerns:

*Bernadette: “Erm, well we are in a different department so we are you know, we would help each other, we always talk at break, at lunch and that kinda thing, you know talking is great erm, yeah we have a supportive department which I think really helps”.*

Overall, the theme “Self-care” identified pressures relating to the administrative duties, classroom duties, and perceived lack of communication from senior leadership was impacting teaching staffs’ ability to practice self-care. However, some departments within the school may have been better equipped to provide staff with the space to cooperate and support each other than others.

### *Outreach*

Following this, participants were asked whether there was anything else that they (participants) would like to add that would assist teaching staff to establish a trauma-informed classroom? John opened by expressing some frustration because of students who he perceived as not being invested in trauma-informed practice. Teaching staff have bought into whole school trauma-informed practice; however, students have not received any CS training:

John: “*I’d be interested in the pupils’ voice because we are, we are buying into it and I think it’s frustrating because you’re trying to be more patient more restorative, more trauma-informed and you’re doing your bit and you do feel let down if they (students) don’t buy into it*”..... “*you kinda, you kinda expect maybe that the penny will drop with them at some point*”.

The above observation was supported by Emily who suggested that everybody within the school needed to understand what it meant to be a trauma-informed school. At present, students were confused and did not understand what trauma-informed CS was about.

Emily: “*It needs to be everybody that has a better understanding, you know, the kids don’t understand what a trauma-informed compassionate school is, and they’re kinda going well what’s this all about....*”.

To clarify what was said previous, Interviewer 1 asked. “So, you think students need to be more aware themselves of everything about trauma-informed schools”?

Cora: “Yes” (*all nodded in agreement and said “yes”*).

Admitting that training students in the CS approach was beyond the skills of teaching staff within the school, Cora asked for workshops to be delivered for students from outside agencies:

Cora: “*Because we don’t have the skills for that, we need help from people to come in and take our students through ..... workshops*”.

Jodie interrupts by asserting the importance of workshops for students and included the need for booster workshops for staff in recognition that being trauma-informed requires more than just once off training. She suggests ongoing workshop training for students too:

Jodie: “*Aye, yes, that is very important, the workshops and everything else. erm, we would need backup after those as well, it’s not just a one-off workshop, it’s definitely, that there’s somebody that comes in weekly or whatever length of time (interrupted)*”.

Picking up on this comment, Emily indicated some parental and community confusion surrounding what it means to be trauma-informed. She reasoned parents viewed CS as ‘just another thing’ that the school had introduced, and in doing so, inferred a lack of dissemination of the framework to parents from the school. She goes further to endorse trauma-informed training for parents similar to what staff at the school received. This, she believes, would provide a better, rounded, understanding of what it means to be a trauma-informed school:

Emily: “*.....parents often don’t, they just see it as another thing that the school does, erm, so I think maybe a bit more training you know training for the kids on a level for them erm, and then bring parents, and bring parents in and do the training that the staff have received as well, you know, just so that everybody is aware of, well look this is what it means this is what we’re trying to do erm, and then there’s a better understanding all around...* ”.

In summary, the theme ‘Outreach’ incorporated two well-defined groups: students and parents. Some teaching staff recognised that students were not invested in the CS programme so put forward recommendations for outside facilitators to come into school and deliver ongoing workshops to students to assist their understanding.

### *Role Adaptation*

Next, participants were asked about their understanding of how trauma impacts learning and whether their (participants) attitudes had changed in any way. Dave opened and asserted that the CS training made him more aware of learning difficulties students were facing in his classroom. Furthermore, Dave was ‘seeing’ more trauma-impacted students in his classroom because of his increased awareness following training. His empathy for trauma-impacted students transformed into a compassionate approach as he attempts to help these students in need.

Dave: “*We really see how it effects barriers to learning, how it affects them*”..... ”*and learning difficulties as well, I mean all that there really hit home*”..... ”*you are more aware now, you are looking out for more students, and you are, you are seeing more students who’s affected and then you’re sorta zoning in on them and trying to help you know*”.

Focusing on specific components of the CS training, Zoe derived most benefit from the training encompassing the fight/flight/freeze/fawn responses. The CS training provided her with the knowledge to recognise dysregulated behaviours in the classroom along with advancing more compassionate approaches to these behaviours:

Zoe: “....*the fight and flight kind of idea, em, I think that was really beneficial within the classroom, just when the child was coming in with trauma, you know, just to even know the way in which they’re acting is, this is the part of them going through this process you know.....*”

Emily goes further to summarise what she felt the CS training afforded teaching staff. She acknowledged the need to adapt previous approaches to misbehaviour to a more inclusive, supportive, and compassionate role in the classroom:

Emily: “*It’s just all about changing our approach to how we deal with the students, you know, it’s looking beyond the behaviour and asking why, why is the behaviour like this? And what can we do to support the pupils erm, in, in behaviour and the type of behaviour and you are just more compassionate, and you try to be more understanding towards, you know (interrupted)*”.

To elucidate whether any further behaviour change in response to the training had taken place among participants, Interviewer 2 asked, “What have you changed in response to the training”? Zoe explained that she now takes a little time to reflect on what would be the best response to the current situation, and in doing so, avoids knee-jerk reactions:

Zoe: “*It’s about taking that pause and realising I’m not reacting and kinda going right, what’s going on here and weighing up the whole situation and then responding in the appropriate way just*”.

Adapting to a more trauma-focused compassionate perspective, Kevin used language to connect and build relationships with his students:

Kevin: “*.....again it’s about the language we use, not what’s wrong but what’s happened, what’s happened for you to behave like this, so it’s changed my way of thinking in that sense*”.

Finally, Joan recognised an increase in her awareness of the difficulties trauma-impacted students may be experiencing in the classroom in response to CS training. Furthermore, she believed that the training had assisted her in being able to ‘cope’ with situations as they arose:

Joan: “*I think it’s made me more aware of what the children are going through, you know, just how to approach them and you know, just being very, very aware of that, you know, how they may react, you know, and what way for as a teacher to cope with that particular situation.....*” (all nodded in agreement).

In sum, the above extracts demonstrate that the trauma-informed CS training workshop had a positive effect on teaching staff perspectives, attitudes, and behaviours, which led teachers to adapt their roles within the classroom to a more trauma-informed, compassionate approach.

## **7.6. Discussion**

The increasing awareness of the ubiquitous nature and detrimental effects of adverse childhood experience, stress, and trauma has ignited interest in trauma-informed care across service sectors (Kenny et al., 2017). Within schools, teachers have reported that stress resulting from students' disruptive behaviour as being central to experiences of burnout (Fazel et al., 2014). However, teachers have limited training, knowledge, or skills, to recognise student misbehaviour as reactions to toxic stress and trauma, and therefore are often locked in negative cycles of punitive approaches and escalating misbehaviour. Providing whole-school trauma-informed care (TIC) training is perceived as a practical way to disrupt these negative cycles by attempting to inform staff on the nature of trauma and in doing so, change attitudes toward trauma-impacted students.

The primary aims of the current study were to determine whether a 2-day professional development training programme in trauma-informed compassionate schools (Wolpow et al., 2009) would lead to changes in school personnel attitudes towards trauma-informed care and that these changes would be maintained at 6-month follow up. Additionally, the study set out to determine whether the implementation of trauma-informed CS within the school influenced school personnel levels of compassion satisfaction, secondary traumatic stress, and burnout. To ensure any significant findings were robust, the study employed a waitlist control group yielding a between-groups comparison. The control schools had similar student numbers and are both post-primary schools situated in N.I.

With the use of a mixed methods approach, a fuller understanding of the complexities involved in the implementation of the programme surfaced. Within this study, both quantitative and qualitative data supported the positive impact of CS training on teacher attitudes towards trauma-impacted students. Regarding quantitative findings, the study evaluated measures on attitudes related to trauma-informed care pre-, and immediately following the professional development training within the intervention group. Despite the fact this group showed baseline scores on the overall ARTIC scale and subscales that were above the midpoint (i.e., participants were already endorsing trauma-informed attitudes before training leaving comparatively little room for improvement), findings revealed the 2-day compassionate schools training programme had an immediate, positive, significant effect on attitudes related to trauma-informed care.

Next, the study evaluated whether any change from pre-workshop ARTIC scores within the intervention group to the 6-month follow up scores took place. Findings showed a positive change in the overall ARTIC and all subscales, suggesting that participation in the workshop had experienced positive and lasting effects on attitudes related to trauma-informed care. These findings corresponded with the theme of *Role Adaptation* developed from focus group interviews. Participants agreed that they were now more aware of the profound impact trauma can have on their students, they also believed training had assisted them in their ability to cope with dysregulation in the classroom.

Following this, the study determined whether the implementation of trauma-informed CS within the school influenced school personnel levels of compassion satisfaction (CSAT), secondary traumatic stress (STS), and burnout within the intervention group. Results showed no change in CSAT but a significant decrease in STS and burnout as measured at 6-month follow up. Baseline scores indicated that the intervention group had already moderate levels of CSAT, STS, and burnout. At 6-months, levels of STS and burnout decreased to low, thus

conceivably demonstrating the efficacy of the combined workshop modules, and in particular, the modules pertaining to self-care.

It should be noted that following eliciting the themes of *Challenges*, and *Self-care* from the focus group interviews, the researchers immediately brought forward the concerns of participants to the school leadership team via a whole-school booster session on classroom management and self-care strategies. Teaching staff concerns around systemic issues, and perceived lack of senior leadership support were voiced during this session with senior leadership and teaching staff resolving the behaviour management policy to be more inclusive and supportive of a whole school approach, thus amendments were made to ensure classroom support was being provided to all teaching staff and that this was led by senior management (Muijs & Harris, 2006). Strategies of self-care for teaching staff were also agreed upon as per recommendations set out within the CS framework. Self-care strategies are comprised of physical, emotional, cognitive, social, and spiritual self-care. School personnel were made aware that self-care was an ethical responsibility and were instructed how they can avert or diminish the impact of STS and burnout in the classroom.

Understanding how to prevent burnout by prioritizing self-care in addition to senior leadership buy-in may have ameliorated feelings of exhaustion, frustration, anger, and depression in participants within the intervention sample.

Finally, the study compared the intervention group with the waitlist control group on all measure's pre-workshop and at 6-month follow up. When comparing time 1 to time 3 of both groups, the intervention group demonstrated higher overall ARTIC, self-efficacy at work, and reactions to the work subscale scores at six-month follow up, whereas there was no change within the control group at this time. In comparison to the control group, burnout levels of the intervention group went from moderate to low at 6-months, whereas control levels of burnout remained within the parameters of moderate though did increase.

A possible causal interpretation of the quantitative findings above may be that since self-efficacy (i.e., self-evaluation and self-perception) is derived from positive peer support and strong school leadership, staff may have averted increases in STS and burnout due to buy-in from school leadership (Skaalvik & Skaalvik, 2010). Supportive school leadership provides staff with shared norms, goals, and values which may increase staff beliefs of the ability of the school to execute courses of action necessary to produce desired outcomes (Muijs & Harris, 2006). With school leadership buying into the CS paradigm espousing high expectations of classroom management and staff self-care, staff self-efficacy has begun to flourish and in turn lessening symptoms of burnout.

In relation to the focus group theme *Outreach*, some teaching staff recognised that students were not invested in the CS programme and put forward recommendations for outside facilitators to come into school and deliver ongoing workshops to students to assist their understanding. This strategy to educate students on the deleterious effects stress and trauma have on the developing brain is not unique, however, very rare within the research literature. Carello and Butler (2014) suggest that the risk of re-traumatisation and secondary traumatisation should be decreased rather than increased and go on to propose that any trauma-informed approach to pedagogy should recognise these risks and promote students' emotional safety first and foremost (Carello & Butler, 2014). Overall, focus group responses demonstrated that participants were broadly supportive and accommodating of the CS framework as evidenced by recommendations from the group that CS training should also be undertaken with both student and parent cohorts.

These findings replicate previous studies evaluating the CS programme in an educational setting (Parker et al., 2019), and add to the small yet growing evidence-based research on TIC implementation using theoretical grounded, effective TIC models in schools. Furthermore, and to our knowledge, this study is the first study evaluating TIC programmes in schools that

establishes internal validity by way of a control group. Bolstered by this quasi-experimental design, these findings demonstrate that when school personnel are provided with psychoeducation that they were unlikely to receive in pre-service training, it had an immediate and long-term impact on attitudinal change towards their trauma-impacted students. Modules of the CS training comprising of neuroscience, neurobiology, and psychology, enabled school personnel to recognise and understand ACEs, stress, and trauma and how these affect students' biological, psychological, and social well-being. Additionally, instruction on self-care and on recognising and responding to stress and how stress manifests in the classroom along with school leadership buy-in seemed to de-escalate patterns of burnout in participants within the intervention group. Finally, teaching staff advocating for and endorsing CS training represents preliminary but encouraging evidence of the suitability and acceptability of CS training in schools (Parker et al., 2019).

### *Limitations*

Our overall findings should be considered in light of several limitations. The quantitative study relied entirely on self-report questionnaires and are consequently subject to an array of concerns regarding that form of data-collection. Furthermore, the ARTIC scale is a measure of attitudes and not behaviours, therefore, positive results cannot be translated to real-world actions of school personnel. Future studies should attempt to connect attitudinal change with real-world behavioural change of personnel and endeavour to correlate these changes to improvements in student behaviour and academic attainment. Moreover, this study was unable to dismantle, or portion components of the 2-day training workshop. For instance, was every module presented at training necessary to create the change reported, or were some modules demonstratable more valuable than others? Could some modules be excluded with no apparent effect on outcomes? Which modules were most predictive of attitudinal change, and change in levels of STS and burnout? Future studies should investigate these questions to

improve the delivery and enhance the paradigm as well as evaluate its impact. Indeed, conferring directly with young people within the school system about the changes being made may be an important indicator to the success of any trauma-informed intervention, therefore an important factor to include in future research. Reporting on the impressions of students along with organisational and systemic outcomes is a useful form of triangulation and an avenue for future investigation.

### *Recommendations*

While most educators receive little training in recognising the signs and symptoms of primary traumatic experience in their student population, they receive no training in the self-care necessary to prevent compassion fatigue in themselves (Wolpow et al., 2009). In response to insufficient training of school staff, school leadership should be engaged in activities to promote organisational culture, policies, and practices to support staff. These recommendations comprise of placing focus on prevention by being proactive in addressing stress management, reinforcing natural support systems for school personnel, and continuous evaluation of ongoing efforts to ameliorate compassion fatigue (SAMHSA, 2014). School administrators should shoulder responsibility for embedding practices that promote self-care for all school personnel who are frontline staff dealing with trauma and adversity (Thomas et al., 2019). The implementation of trauma-informed care is a top-down system-level intervention that seeks to transform the environment of service provision, to embed a more empathetic and compassionate culture, and define policy to ensure the risk of re-traumatisation is minimised (Lowenthal, 2020). In addition, TIC in the education system should not be viewed as a short-term experiment as success relies on adequate groundwork being laid to guarantee genuine buy-in. Success will also depend on sufficient resources, both financial and human, to be released to ensure a shift in paradigm. Including community

partnerships ensures that these approaches gain a foothold and the benefits accrued can be maximised (Bunting et al., 2019).

Moreover, the approach of delivering interdisciplinary knowledge by employing outside specialists to teach school staff on a one-off or intermittent basis is one that is surely unsustainable. With rates of teacher turnover increasing, schools are at risk of hiring new teachers that have little to no training in trauma-informed practice. Therefore, it is recommended that school administrators at state level advocate for teacher pre-service programmes to comprise of well-grounded, and methodologically rigorous research and practice that compels changes in teaching practice towards a trauma-informed approach. This approach will both, guide teachers to recognise their unique role and accept their responsibilities to improve the outcomes of trauma-impacted youth and support the growth of ‘whole-school’ implementation going forward.

In order for any school to truly and authentically embed trauma-informed principles into their school, each school discipline or behaviour management policy may need to be revised. This was observed within the intervention school where it was clear that the trauma-informed principles would not be acted upon or taken forward unless the discipline policy was revised to reflect trauma-informed principles and strategies; for example, removing suspension and expulsion as punishments, and considering choice and consequences instead (five acts of kindness rather than detention). We found that proposed revisions had to be carried out in collaborative way (engaging both pupils, teachers and senior management together to form a small working group) who met, discussed and revised the discipline policy.

In addition to this, the intervention school found it necessary to link in more effectively with other outside supportive agencies; for example, when children disclosed to their teachers that they were indeed experiencing trauma at home. The intervention school increased their

engagement with the social work gateway and family intervention services, in addition to other key workers from agencies such as ‘Start 360’ who support families/parents who abuse alcohol. Finally, the intervention school developed a better relationship with the local CAMHS Psychologist who provided additional supportive consultations as and when required throughout the pilot phase.

### **7.7. Conclusion**

This study was the first whole-school trauma-informed professional development training workshop that utilised more robust research methods by the means of a control group. This study contributes to the empirical evidence relating to trauma-informed approaches in schools. The study was designed to determine attitudinal changes among school staff following the implementation of a whole-school trauma-informed intervention (workshop). The content of the workshop material provided the framework for the development of a more compassionate, supportive, safe classroom environment in addition to improving teacher well-being (Wolprow et al., 2009). Our findings demonstrate that with minimum training on the dynamics of trauma, all personnel attached to a school can become more trauma-informed and as such, have more favourable attitudes towards trauma-impacted students and consequently be less likely to experience burnout. These findings support the ongoing evaluation of the CS paradigm as a potential framework for ameliorating the negative impact of trauma and burnout and contributes to the small but growing body of research in promoting more trauma-informed attitudes and improving staff wellness in schools.

The following phase of this thesis set out to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme called Inner Explorer – audio-guided – 8 mins daily) would increase adolescent subjective happiness, emotional regulation and resilience, and decrease levels of rumination, perceived stress and psychopathologic responses in adolescents, to determine whether mindfulness

practice increases levels of mental wellbeing, and decreases levels of perceived stress and burnout in teachers, and to evaluate whether parental participation in mindfulness practice leads to improved outcomes in their children over and above adolescents who practice without parental participation. Finally, the following chapter aims to determine whether student participation in mindfulness practice leads to improved outcomes in comparison to students who do not practice mindfulness (control group).

**Chapter 8.** Targeting Emotional Dysregulation Using Audio-Guided Daily Mindfulness: A Bronfenbrenner Systemic Framework Including Students, Teachers and Caregivers

### **8.1. Introduction**

Due to adolescents experiencing stress at unprecedented levels, the risk of anxiety, depression, substance abuse, along with other emotional and behavioural difficulties are on the increase (Costello et al., 2003; Kirby et al, 2019; Mendelson et al., 2010; Twenge, Cooper, Joiner, Duffy, & Binau, 2019). The most prevalent mental health concern in adolescents are anxiety and mood disorders (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). Kessler et al. (2005) found that 50% of anxiety and mood disorders developed by the age of 14 with 75% developing by the age of 24 (Kessler et al., 2005). By the time young people reach the age of 18, approximately 20% will suffer significant mental health problems (Betts & Thompson, 2017; Erskine et al., 2015; Das et al., 2016). The research literature suggests that toxic stress during childhood and adolescence may lead to demonstratable impairment in mental, social, and emotional functioning, increasing the risk of school drop-out, learning difficulties, lower educational attainment, self-harming behaviours, and psychopathology (Eisenberg, Downs, Golberstein, & Zivin, 2009; Keyes et al., 2012; Van Ameringen, Mancini, & Farvolden, 2013).

#### *Effects of Toxic Stress*

Children and young people experiencing socio-economic deprivation and/or experiencing childhood adversity without an always available adult present to act as a buffer, are at risk of experiencing toxic stress (Costello & Lawler, 2014; Graham & Easterbrooks, 2000; Shonkoff et al., 2012). This type of stress is associated with social-emotional difficulties and related anxiety, depression, hopelessness, concentration difficulties, learning difficulties, emotional and behavioural problems in school, and health-compromising behaviours (Bellis, Hughes, Leckenby, Perkins, & Lowey, 2016; Costello et al, 2014; Hair, Hanson, Wolfe, and Pollack, 2015; Holt, Buckley, & Whelan, 2008; West, Denton, & Reaney, 2001). Recently, neuroscience has evidenced that toxic stress alters neural circuitry underpinning both

cognitive control and emotional processing contributing to the onset of psychopathology (Duffy, McLaughlin, & Green, 2018). Many of these young people experience prolonged and persistent levels of the stress hormone cortisol which may lead to cell death and atrophy in the hippocampal region of the brain associated with working memory and emotional regulation (McEwen, 2003). As such, adolescents frequently report maladaptive cognitive and behavioural strategies as a vehicle to cope with difficult and distressing emotions and situations, such strategies may include rumination, self-harm, aggression, gambling, and drug and alcohol abuse (Canale et al., 2016; Ellis, Del Giudice, & Shirtcliff, 2013; Price & Hooven, 2018; Schulz & Vogege, 2015; Taylor, Way, & Seeman, 2011). In turn, these maladaptive strategies may increase levels of anxiety, depression, hopelessness, and difficulties with concentration leading to further entrenched emotional and behavioural problems (Holt, Buckley, & Whelan, 2008).

### *Executive Functions and Neuroplasticity*

Executive functions (EF) such as working memory, inhibitory control, and cognitive flexibility, are housed within the pre-frontal cortex and are the foundation of greater cognitive capacity and self-regulation, indeed, executive function deficits are often the reason by which student learning difficulties occur (Zelazo & Muller, 2011). EF skills help to regulate emotions in the face of an emotional trigger and help the student to decide on an appropriate response to any incoming challenging stimuli (Diamond, 2013). For example, inhibitory control allows the student to pause between stimulus and response, not just reacting to emotional upsetting circumstances, and working memory empowers them to remember information on how to respond effectively, while cognitive flexibility enables the student to have empathy for another's perspective and accept responsibility for their part in a conflict (McCormack & Feeney, 2015).

Interventions targeting the development of executive functions work through a process of neuroplasticity and neurogenesis (Diamond & Lee, 2011). Neuroplasticity implies that the brain can reprogramme itself through a myriad of functional inputs, including environmental and physical stimuli, relationships, emotions, thoughts, beliefs, experiences, and meta-cognition – what the brain thinks of itself (Karbach, 2015). Neuroplasticity is the capacity of the brain to rewire neuronal architecture by building new circuitry and connections between brain cells (McEwen & Gianaros, 2011). A critical developmental period for building strong foundational brain architecture is in school-aged youth (Karbach, 2015). Therefore, increasing the capacity of EF to better self-regulate psychophysiological input, and to regulate the stress response is seen as both, a major protective factor, and a powerful predictor of positive health outcomes (Moffitt et al., 2011; Noble et al, 2015). Empirical research suggests that introducing skills that build solid foundational brain architecture during optimal windows of neurogenesis and brain plasticity in childhood and adolescence can generate remarkable results (Cramer et al., 2011; Duffy et al., 2018). EF skills help to regulate emotions in the face of an emotional trigger and help the young person to decide on an appropriate response to any incoming challenging stimuli (McCormack et al., 2015).

### *Emotional Regulation*

Adolescent development trajectories are influenced by both genetic predisposition and exposure to stress, however, protective factors such as the capacity to self-regulate psychophysiological input, or the capacity to regulate the stress response are seen as powerful predictors of mental health outcomes (Moffitt et al., 2011). Self-regulation infers two separate constructs, namely, emotional regulation and attention (cognitive) regulation (Duckworth & Seligman, 2012; Thompson, 1994). Attention regulation is the ability to focus attention on a specific cue within the environment, it is the intentional direction of attention, whereas emotional regulation refers to the capacity to monitor, assess, and modify emotional

responses (Thompson, 1994). Both constructs influence cognition, emotions, and behaviour (Koole, 2009).

Poor emotional regulation skills are linked with a range of psychopathologies (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Anxiety and depression have been increasingly recognised and understood as problems relating to emotional dysregulation (Cisler & Olatundi, 2010). Deficits in emotional regulation capacity have also been linked to substance abuse and conduct problems with an inclination towards violent behaviour (Davidson, Putman, & Larson, 2000). Adolescent emotional dysregulation has been linked to academic performance and social competence (Bakosh, Snow, Tobias, Houlihan, & Barbosa, 2016). Emotional dysregulation implies a disproportionate emotional response that is inapt or erroneous in relation to sensory input and impacts on overall health and wellbeing. (Price & Hooven, 2018). There may be few advantages to a dysregulated response (e.g., forceful aggression may aid an escape from imminent danger), however, a disproportionate emotional response may signal problems to overall health as intense dysregulated emotions may be synonymous with mental ill-health (Price & Hooven, 2018).

The bulk of recent research has consistently associated emotional dysregulation (ED) with depression and anxiety symptomology (Aldao, Jazaieri, Goldin, & Gross, 2010; Olatunji, Cisler, & Tolin, 2010; Klemanski et al., 2017; Schafer et al., 2017; Young, Sandman, & Craske, 2019). For example, recent controlled studies exploring ED suggested that adolescents experiencing either/both anxiety and depression were more likely to experience ED (Klemanski et al., 2017; Neuman, Van Lier, Frijns, Meeus & Koot., 2011). Regulated emotions, on the other hand, entails effective communication between body, thoughts, and feelings enabling the capacity to endure challenging sensations and associated behavioural responses thus moderating decisions with the goal of de-escalating or tempering emotional responses (Price & Hooven, 2018). Exposure to toxic stress can lead to a body-mind

breakdown in communication reflecting difficulties in tolerating and interpreting cues (Ellis, Del Giudice, & Shirtcliff, 2013; Price & Hooven, 2018; Schulz & Vogegele, 2015). Accurate recognition of cues associated with physiological affect presents benefits to physical, and mental wellbeing, social connectedness, and self-efficacy (Price & Hooven, 2018).

In addition to emotional dysregulation, studies have found that regular use of rumination (maladaptive emotional regulation strategy) increases the risk of clinical depression in adolescence (Burwell & Shirk., 2007; Kalmbach et al., 2020; Somers, Borelli, & Hilt, 2020). Rumination consists of dwelling thoughtfully on symptoms and on the possible causes and consequences of symptoms and differentiates from problem-solving by the absence of actions directed to solve or change the situation, or to relieve distress (Somers et al., 2020). In contrast, within other research, rumination has been shown to predict the onset of anxiety symptoms but not depression (McLaughlin et al., 2011). This anomaly seems prevalent within the literature as previous studies examining the role of rumination found frequent use of rumination did not predict increases in anxiety (Hankin et al., 2008). Therefore, a great deal of inconsistency persists in relation to rumination and adolescent psychopathology and an overall dearth of research examining deficits in emotional regulation capacity relative to internalising problems in adolescence.

It has been proposed that strategies that can counter the effects of toxic stress on executive function should be an essential element of the school curriculum as adolescents may increase self-regulatory skills, in turn, bolster coping resources which lend as a buffer against concurrent and future psychological difficulties (Klatt, Browne, Harpster, & Case-Smith, 2012; Napoli, Krech, & Holley, 2005; Perry-Parrish et al., 2016). These strategies may act as protective factors, enabling resilience in the context of adversities experienced (Morrison & Redding-Allen, 2007). Recently, there has been increasing interest in trauma-informed, broad evidence-based interventions that counter the negative impact of stress and improve both

student and teacher coping mechanisms (Sapthiang, VanGorden, & Shonin, 2019; Windle, 2011; YouGov, 2013).

### *Teacher Stress*

Stress impacts teachers both professionally and personally and may lead to increasing levels of burnout. Recent research has identified factors that are strongly linked with teacher stress and burnout. These factors comprise decreased self-efficacy, job satisfaction, lack of administrative support, and poor teacher-student relationships (Collie, Shapka, & Perry, 2012; Richards, 2012). Teacher stress coming from outside the classroom include lack of collaboration with other staff, and lack of parental involvement (Aderaa & Bullock, 2010; Foley & Murphy, 2015). One way to conceptualise teacher stress has been through the application of Lazarus and Folkman's (1987) Transactional Theory which posits that stress follows when individuals perceive the demands made of them as outweighing their coping resources (Lazarus & Folkman, 1987).

The bulk of current trauma-informed care initiatives have focused on providing teachers with knowledge on how to recognise students presenting with trauma, however, very few trauma-informed care initiatives focus on providing teachers with strategies for their own self-care (Chafouleas, Johnstone, Overstreet, & Santos, 2016; Wolpow et al., 2009). Even when self-care is advocated for, teachers are usually left with strategies that are individual in form, outside of school hours, and are instructed around personal responsibility (Chafouleas et al., 2016).

### *Mindfulness for Teachers*

In line with Bronfenbrenner's (1992) ecological systems theory, when considering well-being in school, a whole-school approach (students, teachers, and parents) may be preferable, along with taking account of the presence of stress/well-being contagion within these systems (see

Bronfenbrenner, 1992; Chi et al., 2019; Dishion & Tipsord, 2011; King & Datu, 2017; Oberle & Schonert-Reichl, 2016; Wethington, 2000). A more holistic approach would integrate both trauma-informed practice and teacher self-care initiatives. Incorporating mindfulness as part of trauma-informed practice seems to have utility as it is seen as one of the most prominent self-care techniques addressing teacher stress today (Hwang, Bartlett, Greben, & Hand, 2017). Indeed, mindfulness-based interventions (MBIs) promote self-regulation skills for individuals with trauma histories, indicating that trauma-informed care and mindfulness to be a complementary match (Bakosh et al., 2016; Bethell, Gombojav, Solloway, & Wissow, 2016; Eyal, 2019; Flook, Goldberg, Pinger, & Davidson, 2015; Reiser & McCarthy, 2018).

Exposing teachers to mindfulness skills has been demonstrated to increase their well-being and self-efficacy, as well as improving their ability to reduce behavioural issues within the classroom (Meiklejohn et al., 2012). Semple et al. (2017) review of school-based intervention programmes concluded that the evidence demonstrates the effectiveness of mindfulness-based interventions in managing both teacher and student stress, increasing attention to task skills, executive functioning, and strengthening socio-emotional resiliencies in students (Semple, Droutman, & Reid, 2017). In a study conducted by Lomas et al. (2017), teachers practising mindfulness-based stress-reduction (MBSR) showed increased empathy and compassion, increased well-being, better relationships, and more resilience (Lomas, Medina Ivitan, Rupprecht, & Orosa, 2017). Other researchers demonstrated that MBSR increased teachers' capacity to manage stress, decreased negative reactions to student behaviours (Cook et al., 2017), increased their self-efficacy levels, improved their classroom management skills (Meiklejohn et al., 2012; Roeser, Skinner, Beers, & Jennings, 2012), increased student compliance and student learning (Bakosh et al., 2016; Cook et al., 2017; Frank, Reibel, Broderick, Cantrell, & Metz, 2015). Additionally, teacher working memory capacity, attention, along with decreased levels of burnout, depression and anxiety symptoms have also

been reported in the literature (Hwang et al., 2017; Roeser et al., 2012). In addition, mindfulness practice was associated with increases in emotional regulation which is posited as an essential skill for coping with student trauma-related behaviours (Hill & Updegraff, 2012). Furthermore, mindfulness practice supports teachers' accommodation of students' socioemotional needs and develops greater compassion and kindness towards themselves and their students (Hwang et al., 2017).

### *Mindfulness for Adolescents*

Donovan et al. (1991) hypothesise that mental ill-health symptoms are invariably a marker of unmet psychological and social needs, and/or maladaptive thinking styles and beliefs which may manifest through adverse risk-taking behaviours or psychopathology (Donovan, Jessor, & Costa, 1991). Due to cognitive, biological, and sexual maturation during adolescence and the pressures and importance of developing positive peer relationships and peer acceptance, emotions during this period may be felt as frequent, intense, and difficult (Agarwal & Dixit, 2017). Indeed, adolescents frequently report maladaptive cognitive and behavioural strategies as a vehicle to cope with difficult and distressing emotions and situations, such strategies may include rumination, self-blame, aggression, and drug and alcohol abuse (Canale, Scacchi, & Griffiths, 2016).

Consistent with Rose's (1992) prevention paradox principle (whereas global prevention interventions that include low-risk individuals may decrease the risk of disease burden more effectively than targeting high-risk individuals only), there has been increasing interest in broad-based interventions promoting mental well-being in schools that seek to build resilience and strengthen protective factors in children and adolescents (cited in, Sapthiang, VanGorden, & Shonin, 2019). Within the last decade, mindfulness-based interventions have been administered to the adolescent population in respect of both, resilience building and

within treatment contexts. Within the context of treating mental ill-health, findings reveal that mindfulness practice can decrease levels of adolescent anxiety, depression (Zoogman, Goldberg, Hoyt, & Miller., 2015), rumination, negative coping, intrusive thoughts, emotional arousal, stress in interpersonal relationships (Perry-Parrish et al., 2016), and substance misuse (Fortuna, Porche, & Padilla, 2018). Similarly, findings suggest that mindfulness interventions build resilience via healthy lifestyle behaviours such as partaking in physical exercise (Salmoirago et al., 2018), increasing working memory capacity (Quach, Mano, & Alexander, 2016), emotional well-being (Galla, 2016), optimism, hope, prosocial behaviours (Schonert-Reichl & Lawlor, 2010), life satisfaction, perceived stress, and self-compassion (Bluth, Robertson, & Gaylord, 2015).

### *Mechanisms of Mindfulness*

One of the key mechanisms underlying mindfulness practice is developing ‘mental breathing space’ between stimulus and response, or in other words, taking pause to reflect before responding to a trigger (Shonin, Gordon, Griffiths, 2012). This mechanism enables the individual to not only observe their thoughts and feelings, but to actively remain unattached to them, this is sometimes achieved by asking participants to think of their thoughts as waves in the ocean (Shonin et al., 2012). This greater awareness and non-attachment to thoughts, feelings and sensory processes generate an increased capacity to regulate emotions amid a developmentally challenging phase of the life course (Agarwal & Dixit, 2017). In short, mindfulness practice increases individual tolerance to uncomfortable thoughts and feelings and facilitates unfastening links of negative appraisals from emotional dysregulation (Bishop et al., 2004).

Mindfulness-based interventions (MBI’s) propose to develop EF skills that students with a wide range of difficulties can practice and learn. School-based mindfulness interventions

teach students a lifelong skill which, in turn, may decrease the need for costly professional support services throughout the lifespan (Halladay et al., 2019). Given that emerging evidence suggests that technology-based mindfulness-based interventions for school-going adolescents may be as effective as face to face instruction (Bakosh et al, 2016; Jayawardene, Lohrmann, Erbe, & Torabi, 2017; Querstret, Cropley, & Fife-Schaw, 2017), implementing MBI's via the internet may be an appealing proposition to those who advocate for adolescent mental health in schools as there would be no need for an expert facilitator, would minimise costs, and require no curriculum changes. Moreover, school-based mindfulness-based interventions (MBIs) may be a cost-efficient vehicle of both, meeting government mental health objectives in relation to adolescents, and increasing the well-being of teachers and parents alike (Halladay et al., 2019; Sapthiang et al, 2019).

#### *Rationale*

By the time young people reach the age of 18, approximately 20% will suffer significant mental health problems (DHSSPS, 2012; Khan, 2016). According to the Bamford Centre, rates of mental ill-health in Northern Ireland are estimated to be 25% higher in comparison to England (Devaney, Bunting, Davidson, Hayes, Lazenbatt, & Spratt, 2012). Limiting the duration and recurrence of mental ill-health during adolescence by implementing an evidence-based whole-school mental health intervention may lower the risk of developing problematic mental ill-health in adolescence (Khan, 2016).

#### *Aims and Objectives*

The overall objective of the study was to introduce a whole-school trauma-informed mindfulness-based intervention to support vulnerable young people and their parents and to aid in the wellbeing of staff.

Therefore, the aims of the present study are (1) to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme called Inner Explorer – audio-guided – 8 mins daily) will increase adolescent subjective happiness, emotional regulation and resilience, and decrease levels of rumination, perceived stress and psychopathologic responses in adolescents, (2) to determine whether mindfulness practice increases levels of mental well-being, and decreases levels of perceived stress and burnout in teachers.

### *Hypotheses*

- (1) It was expected that measures related to adolescent mental well-being (the reduction in aspects related to emotional dysregulation, rumination, perceived stress, anxiety, and depression, and increases in happiness and resilience) would significantly improve post-mindfulness intervention.
- (2) It was expected that measures related to teacher well-being (the reduction in aspects related to perceived stress, burnout, and increases in mental well-being) would significantly improve following implementing the mindfulness intervention within the school.

## **8.2. Method**

### **\*\*Note:**

*The study initially sought to collect data regarding parental participation in the mindfulness programme, however this arm of the research proposed, and its accompanying research question was removed from the following protocol as it was unfeasible to undertake amidst the pandemic and may now serve to confuse the reader if referred to hereafter.*

*It is also worth highlighting that the policies of school closures and restrictions around school access during the years 2020 and 2021 made it impossible for the researcher to follow the below protocol. However, it was decided that this chapter should include the full, ethically approved protocol for data collection and analysis. This will allow other researchers an opportunity to replicate the study if the opportunity arises and the probability of external interference is low.*

*Some adjustments that were made to the protocol to collect data from students and teachers will be discussed in the limitations section of this chapter. Other adaptations to the protocol that were undertaken i.e., to analysis, will be highlighted in \*bold and italic text below the relevant paragraph within the Methods section of this chapter.*

*We will endeavour to provide clarity where necessary and remain confident that this will not deter from the experience of the reader.*

#### *Student Study*

This component of the study employed a waitlist control, cross-sectional survey, pre-post intervention design to determine the efficacy of an audio-guided, trauma-informed mindfulness-based intervention (MBI) programme designed for adolescents in the classroom. As alluded to in the research questions above, the effectiveness of the intervention will be determined by the reduction in aspects related to emotional dysregulation, rumination, perceived stress, anxiety, and depression, and increases in happiness and resilience. \*The intervention was conducted in two waves. In the first wave, approximately 50% of students practised the MBI from September 2020 – February 2021 (active group). In the second wave the remaining 50% of students practised the MBI from February 2021-June 2021 (waitlist control group). All consenting students completed a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave

intervention), and again in June 2021 (time 3: three-month follow-up for first wave group, and end of second wave control group)]. Fidelity was assessed at time 2 for the intervention group and at time 3 for the \*waitlist control group by asking students how often they practised, from not at all to full participation.

**\*Due to school closures the intervention was conducted in one wave only.**

**\*Because of reducing the intervention to one wave the waitlist control became the control group instead.**

#### *Teacher Study*

This component of the study employed a cross-sectional survey, pre-post intervention design to determine the efficacy of an audio-guided, trauma-informed mindfulness-based intervention (MBI) programme designed for adolescents in the classroom that also allowed teachers to practise alongside their students or in their own time. As alluded to in the research questions above, the effectiveness of the intervention was determined by the reduction in aspects related to perceived stress and burnout and increases in mental well-being. \*The intervention was conducted in two waves (see student study above). All consenting teachers were encouraged to practice in the first wave of the MBI. This meant that teachers who are not randomly assigned to the first wave intervention group were asked to practice in their own time. Teachers were asked to complete a short survey at three time-points, [i.e., late September 2020 (time 1: baseline), February 2021 (time 2: end of first wave intervention), and again in June 2021 (time 3: three-month follow-up)].

**\*As with the student study, the teacher study was conducted in one wave only.**

Details of participation, student/teacher recruitment, intervention, measures, data collection and analysis are described below.

### *Participants*

All students and teachers attending/working at Oakgrove Integrated College, Derry, N. Ireland were eligible to participate in the study. Each student was assigned to a form class by school administrators at the beginning of term (this is normal practice). There were approximately four form classes per year group and seven year groups within the school (28 form classes). Assuming an average of 30 students per class, the number of students in the school was estimated at 840. Students were placed in their respective form class as per usual. Fifty percent of form classes within each year group were randomly selected to participate as the active group (MBI - Inner Explorer Group), whilst the remaining fifty percent of form classes participated as the study's waitlist control group (Comparison Group), the control group received the Inner Explorer programme following completion of the first wave of the programme (i.e., September 2020 to February 2021 [Inner Explorer Group]). This means that approximately 420 students were eligible to participate in the initial active intervention group and 420 students were eligible to act as delayed controls. Oakgrove was the site for our pilot intervention Trauma-Informed Compassionate Schools programme aimed at staff members of the school (August 2019 – September 2020). Recruitment to the present study was managed by the school principal working in close conjunction with the researcher and the Chief Investigator of the study.

### *Sample Size*

To ensure \*regression analysis was not under-powered G-Power estimated that a sample size of 304 was required. Adding 10% for attrition/missing data the sample increased this requirement to 334 students. Finally, to ensure that the t-tests for the teacher sample were not underpowered, G-Power estimated that a sample size of 45 was required. Adding 10% for attrition/missing data increased the sample required to 50 participants.

*\*Due to extremely low participation numbers regression analysis was deemed to be inappropriate, and independent samples t-tests were conducted in their place.*

### *Student Recruitment*

Recruitment to facilitate data collection began with the distribution of the full parental information pack that was sent out to parent(s)/caregiver(s) of students within the school (parent/caregiver information sheet, and consent form. Parental/caregiver consent was sought as student participants were under the age of 18. An opt-in approach (active consent) was used, this implied that all parent(s)/caregiver(s) must sign and return the consent form to enable the study to collect data from their child. Strict adherence to the active consent methodology was followed in accordance with Ulster University research policy (Gillen, 2019).

Pre-, post-, and 3-month follow-up mindfulness-based intervention (MBI) survey (see Qualtrics section) consisted of participants completing a series of demographic items along with happiness, resilience, rumination, emotional regulation, perceived stress, anxiety, and depression measures (see measures section). Written instruction for completion was located on top of each questionnaire. Immediately following the MBI, participants were assessed again to determine any variation in recorded measures between pre- and post-intervention and again at 3-month follow up to test if any changes were sustained. To ensure confidentiality students used their student ID number. Participation was voluntary, and individuals were aware they could withdraw from the study at any point without any consequence. All participants were also be informed that they could request to have any previously submitted data removed up until 4 weeks after the final data collection point in June. After this point, student and teacher ID numbers used to match data over time would be removed making it impossible to remove individual responses on request.

In order to attain parental/caregiver consent for the collection of data, meetings were held with the school principal along with the year heads. At these meetings, the chief investigator and PhD researcher were informed of the number of students within each form class and within each year group (see table 8.1 for a breakdown of the typical structure of post-primary schools in N. Ireland).

Table 8.1. Age Range of Student Within Each Year Group

Student Age Range (Years)	Year Group
11 - 12	Year 8
12 - 13	Year 9
13 - 14	Year 10
14 - 15	Year 11
15 - 16	Year 12
16- 17	Year 13
17 - 18	Year 14

\*Following this, the researcher printed the parental/caregiver information sheet and consent forms, which were labelled with the relevant form class name e.g., ‘10E’ along with the form teachers name and placed into a sealed envelope addressed to each parent/guardian.

***\*Due to the risk of contamination with the Covid-19 virus, paper-based material was not permitted. All correspondence was conducted via email.***

Next, the researcher along with the school principal drafted an email informing all the form teachers that the parent/caregiver information sheet and consent forms for each student in their form class was placed in their ‘pigeonhole’ in the staff room area. \*Teachers were asked to distribute these packs to each student during the form class session. The students took the packs home to their parent(s)/caregiver(s).

*\*All correspondence was conducted via email. The study questionnaire was distributed to student via the head of the pastoral care team who was deputised by the school principal to conduct affairs in their absence (the principal took long-term sick leave at the beginning of the school year and was unavailable thereafter).*

\*Each parental consent form was signed and returned to the school office within a given timeframe. The consent form required the parent/caregiver to indicate their child's name and the form class they belonged to. This facilitated easy administration of students into their respective form class. In the event this data were missing, the student's form class could easily be identifiable by the school secretary.

*\*Parental consent was indicated following the school secretary receiving an email from the parent/caregiver signalling consent.*

\*In agreement with the school principal, in the week prior to which the parent/caregiver information pack were due to be sent out to parents/caregivers, a brief talk describing the study was given by the chief investigator to all students at assembly. It was expected that this would improve the return rate of parental consent forms.

*\*The brief talk describing the study was not permitted as per Covid restriction guidelines.*

In sum, the parent/caregiver information packs for each student were grouped by form class and were left in each form teacher's pigeonhole in the staff room area. Each form teacher issued their students with the full parent/caregiver information pack and informed the students of the return date. Both a spare hard copy and electronic copy of the full parent/caregiver information pack was provided to each form teacher in case someone misplaced their copy or needed an extra one.

Following the distribution of the parent/caregiver information packs to the students at Oakgrove, all returned consent forms were collected by the researcher from the school office

electronically. From this a list was created, sorted by year group and form class of those students who had parental consent to participate in data collection. In agreement with the school principal, a timetable of each form class lesson was provided to the chief investigator. This lesson was used for personal development and was agreed that this was the best time for students to complete the survey (pre and post intervention) without disrupting academic classes (Gillen, 2019). \*To be clear, consented students were taken from their form class to the computer suite where the survey took place. Any student who did not acquire parental consent remained in their respective form class.

***\*Access by the researcher to the computer suite was not permitted. Due to staggered attendance and restricted student numbers permitted to attend school it was decided that the most efficient way to allow participation in the first wave of the survey was to email the survey to consented students to allow them to complete online at home.***

\*Subsequently, the principal, year heads, and form class teachers were informed via electronic mail of the proposed dates, times, and list of students for data collection to proceed (the end of September – before the MBI commences). As the survey was online, it was also necessary to liaise with the school I.T. technician to ensure that computer suites were available to conduct the survey. In addition to this, and since the computer suites are administered by a system titled Classroom 2000 (C2K; Gillen, 2019, a temporary computer login account, with a private password was necessary to ensure that the researcher tested that the C2K software would not block the link to the survey (Gillen, 2019). Each student on entering the computer suite was cross-referenced via parental consent and a member of staff was on hand with a list of consenting student ID numbers. This enabled the researcher to ensure that no student without parental consent gained access to the survey. Students were then given the Qualtrics link and asked to type this into the URL.

*\*Again, access to the school was not permitted and due to staggered attendance, it was decided that students would complete the online survey at home.*

A student information sheet and student assent form made up the landing page of the Qualtrics survey. Students read the information sheet detailing what the study was about including risks involved with participation. Students gave their assent to allow data collection to proceed. If assent was not given, the Qualtrics software would not allow participants to continue with the survey. Students who did not assent were thanked for their time via Qualtrics software. Students who assented to data collection answered the questions provided (see measures section) and upon completion of the survey, were directed to a Debrief Sheet informing participants what they could do if they felt distressed by any of the survey questions, and what steps to take if they wanted to withdraw from the study.

#### *Teacher Recruitment*

Consent to undertake the study within the school environment had been given by the school principal. Prior to the commencement of the mindfulness intervention, all teachers received a teacher information pack [teacher information sheet with a link to the Qualtrics survey, and example consent form outlining the study details and consent form to view. \*This was left in each teacher's pigeonhole at the beginning of term 1.

*\*Due to the risk of contamination with the Covid-19 virus, paper-based material was not permitted. All correspondence was conducted via email.*

Participation was voluntary, and individuals were aware they could withdraw from data collection at any point without consequences from their employer. In the case of withdrawal from the study, the research team did not retain any previously collected data from the withdrawn participant.

Pre- and post- mindfulness-based intervention (MBI) tests involved participants (teachers) completing an online Qualtrics survey consisting of a series of demographic items, mental well-being, perceived stress, and burnout, (see measures section). Teachers read the information sheet detailing what the study was about including risks involved with participation. Written instruction for completion was located on top of each questionnaire. Immediately following the MBI, participants were assessed again via Qualtrics (post-test in February 2021) to determine any variations in recorded measures between pre- and post-intervention. \*Teachers took a further follow up Qualtrics survey three months after completing the MBI (June 2021) to test whether any changes were sustained.

**\*Due to restrictions, it was decided not to collect time 3 data.**

#### *Student-Teacher Confidentiality and Anonymity*

To ensure confidentiality, all teaching staff were required to produce a unique identifier which was the last four digits of their phone number, and all students were asked to use their student ID number, this allowed the researcher to pair pre- and post- samples for analysis. Following pairing pre- post- data, a period of 4 weeks was allowed for participants to withdraw from the study. After this period, student ID numbers were permanently removed from the dataset ensuring anonymity. At no time was the researcher able to identify individual students by their student ID numbers or individual teachers by their unique identifier. \*The consent forms (teachers and parent/caregiver consent) were stored in a locked filing cabinet and in line with Ulster University's Policy on data retention and storage, GDPR and Data Protection legislation (Data Protection Act 1998 and Data Protection Act 2018).

**\*Due to the risk of contamination with the Covid-19 virus, paper-based material was not permitted. Consent was indicated via Qualtrics.**

#### *Audio guided Mindfulness-based Intervention*

A mindfulness-based social and emotional programme named Inner Explorer (IE) was the programme that the school used. It aimed to combat adolescent and teacher stress levels. IE is an audio-guided internet-based programme that is plug and play in nature, meaning that the teacher had just got to press the play button and a pre-recorded MP3 mindfulness lesson was delivered via computer speakers to the classroom. Each IE lesson was less than 10 minutes in duration and was played daily, reducing the need to alter the classroom curriculum and minimising disruption.

The IE programme included 90 unique mindfulness practices based on Kabat-Zinn's (1982) mindfulness-based stress reduction (MBSR). Corresponding to MBSR, IE teaches awareness of feelings in the body, thoughts, and emotions utilising focus directed attention and open awareness (Goodman, 2019). Listeners practised; 1) breathing and focus-directed practices allowing students to attend to their felt experience, increasing self-awareness; 2) relaxation techniques and being present through the senses, disrupting reactive behaviours while dampening the stress-response system leading to increased self-control; 3) awareness of thoughts and emotions held within the body, creating pause between stimulus and response, enabling responsible decision making; 4) gratitude, kindness, forgiveness and compassionate practices, directed at self and others, connecting students to the larger community (Bakosh et al., 2018). As such, concepts within the 90 practices included, self-awareness, self-control, social awareness, responsible decision making, along with kindness, gratitude, and compassion (Goodman, 2019). Within each 10-minute recording, 2 minutes were left at the end of each lesson to allow students to write in their journals about their experience during that particular lesson. IE developed age-appropriate curricula for the 11-18 year-old groups.

To enable teachers to launch the programme successfully, a one-hour online training session was delivered by Dr Laura Bakosh (Director of Inner Explorer) to the school principal prior to the implementation of the programme in late August 2020.

### 8.3. Student Measures

#### *Happiness*

The present study measured happiness via the Subjective Happiness Scale (SCH; Lyubomirsky & Lepper, 1999). The SCH is suitable for measuring subjective happiness in adolescents (Dogan & Totan, 2013). The SCH has 4 items (e.g., “Compared with most of my peers, I consider myself”) rated on a 7-point scale (1: Least happy, 7: Most happy). The total score ranged from 4 to 28, with higher scores reflecting higher subjective happiness. The scale is considered to have excellent psychometric properties. The internal consistency coefficient tested using Cronbach’s alpha ranged from  $\alpha = .79$  to  $\alpha = .94$  in the original samples, with mean test-retest reliability .72 (Lyubomirsky & Lepper, 1999). In this study, the overall scale demonstrated good internal consistency  $\alpha = .78$  (time 1) and  $\alpha = .86$  (time 2).

#### *Rumination*

The present study measured rumination via the 22 item Rumination Response Scale (RRS; Nolen-Hoeksema and Morrow 1991; Treynor, Gonzalez, & Nolen-Hoeksema, 2003). The RRS is suitable for measuring rumination in adolescents (Shin, Cho, & Kim, 2015). The RRS measures habitual rumination in response to low mood. The RRS has three subscales. The 12-item depression subscale, the four-item brooding subscale, along with the six-item reflection subscale. Example items related to the subscale of depression include “Think about how alone you feel”. Example items related to the subscale brooding include “Think, why do I always react this way?” Example items related to the subscale reflection include, “Go away by yourself and think about why you feel this way”. Responses are rated on a scale of one (almost never respond in this way) to four (almost always respond in this way). A total rumination score is computed by adding up all items, with a minimum score of 22 and a maximum score of 88 with higher scores indicating higher levels of rumination. Previous

studies have shown the alpha coefficient  $\alpha = .90$  with test-retest correlation at  $\alpha = .67$ . In this study, the overall scale demonstrated good internal consistency  $\alpha = .95$  (time 1) and  $\alpha = .93$  (time 2).

### *Emotional Regulation*

The present study measured difficulties in emotional regulation via the Difficulties in Emotion Regulation Scale - Short Form (DERS-SF; Kaufman, Xia, Fosco, Yaptangco, Skidmore, & Crowell., 2016). The DERS-SF is suitable to measure emotional dysregulation in adolescents (Kaufman et al., 2016). The DERS-SF comprises 18 items rated on a 5-point Likert scale, ranging from 1 to 5. The response categories were, almost never (1), sometimes (2), about half of the time (3), most of the time (4), and almost always (5). The scale consists of statements such as "I pay attention to how I feel". A total difficulty in emotional regulation score was computed by adding up all items, on a scale ranging from 18 to 90, with higher scores indicating more difficulties in emotional regulation. The scale consists of six subscales reflecting different aspects of emotional regulation ability. These consist of (1) 'non-acceptance', (2) 'difficulties with goal directed behaviour', (3) 'impulse control', (4) 'lack of emotional awareness', (5) 'lack of clarity' and (6) 'limited access to emotional regulation strategies.' Previous studies have shown excellent psychometric properties within adolescent samples, with the alpha coefficient values for both the DERS-SF total scale and six subscales ranging from  $\alpha = .78$  to  $\alpha = .91$  (Kaufman et al, 2016). In this study, the overall scale demonstrated good internal consistency  $\alpha = .91$  (time 1) and  $\alpha = .87$  (time 2).

### *Perceived stress*

The present study measured perceived stress via the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). The PSS is suitable to measure perceived stress in adolescents (Yarcheski & Mahon, 1999). The PSS comprises 10-items rated on a five-point

Likert scale ranging from 0 to 4. The response categories were, 'never' (0), 'almost never' (1), 'sometimes' (2), 'fairly often' (3), 'very often' (4). The scale consists of statements such as, 'In the last month, how often have you felt that you were unable to control the important things in your life?'. Individual scores on the PSS range from 0 to 40 with higher scores indicating higher perceived stress. The scale has demonstrated good internal consistency ( $\alpha = .85$ ) and validity through correlations with the impact of stressful life events and depressive symptomology (Cohen et al., 1983). In this study, the overall scale demonstrated good internal consistency  $\alpha = .86$  (time 1) and  $\alpha = .75$  (time 2).

### *Resilience*

The present study measured resilience via the revised Child and Youth Resilience Measure (CYRM-R; Jefferies, McGarrigle, & Ungar, 2019). The CYRM-R comprises 17 items rated on a five-point Likert scale ranging from 1 to 5. The response categories were, 'not at all' (1), 'a little' (2), 'somewhat' (3), 'quite a bit' (4), 'a lot' (5). The sub-scale personal resilience consists of ten statements such as, 'I know how to behave in different social situations' whereas the sub-scale caregiver resilience consists of seven statements such as, 'My parent(s) caregiver(s) really look out for me'. Individual scores on the CYRM-R can range from 17 to 85 with higher scores indicating characteristics associated with resilience. The overall scale has demonstrated good internal consistency ( $\alpha = .87$ ), with the personal resilience and caregiver sub-scales demonstrating a Cronbach alpha at  $\alpha = .82$  respectively. In this study, the overall scale demonstrated good internal consistency  $\alpha = .86$  (time 1) and  $\alpha = .83$  (time 2).

### *Depression*

The present study measured depressive symptomology via The Patient Health Questionnaire (PHQ-8; Kroenke et al., 2009). The PHQ-8 is suitable for measuring depression in adolescents (Johnson, Harris, Spitzer, & Williams, 2002). The PHQ8 asks participants to

reflect on the past two weeks in their responses which are based on the DSM-5 diagnostic criteria (American Psychiatric Association., 2013; Burdzovic & Brunborg, 2017). The PHQ comprises 8 items rated on a 4-point Likert scale ranging from 0 to 3. The response categories were, ‘not at all’ (0), ‘several days’ (1), ‘more than half the days’ (2), and ‘nearly every day’ (3). The scale consists of statements such as, ‘Feeling down, depressed, or hopeless?’ Each item was summed to produce a total score ranging from 0 to 24, with higher scores indicating greater levels of depression. The overall scale has demonstrated excellent internal reliability in adolescent samples, with a recent study reporting an internal consistency of  $\alpha = .89$  (Allgaier et al., 2012). In this study, the overall scale demonstrated good internal consistency  $\alpha = .87$  (time 1) and  $\alpha = .75$  (time 2).

### *Anxiety*

The present study measured anxiety symptomology via The Generalised Anxiety Disorder Scale (GAD-7; Spitzler, Kroenke, Williams & Löwe., 2006). The GAD-7 is suitable for measuring anxiety in adolescents (Mossman et al., 2017). The GAD-7 asks participants to reflect on the last two weeks in their responses which are based on the DSM-IV diagnostic criteria (Castillo et al., 2007). The GAD-7 comprises 7 items rated on a 4-point Likert scale ranging from 0 to 3. The response categories were, ‘not at all’ (0), ‘several days’ (1), ‘more than half the days’ (2), and ‘nearly every day’ (3). The scale consists of statements such as, ‘Not being able to stop or control worrying’. Each item is summed to produce a total score ranging from 0-27 with higher scores indicating greater levels of anxiety. The overall scale has demonstrated excellent internal reliability in adolescent samples, with a recent study reporting an internal consistency of .89 (Daig et al., 2009). In this study, the overall scale demonstrated good internal consistency  $\alpha = .90$  (time 1) and  $\alpha = .92$  (time 2).

## **8.4. Teacher Measures**

### *Burnout*

The present study measured burnout via the Professional quality of life assessment (ProQol; Stamm, 2010). The ProQol is a quality that people feel and attribute to their work (Yadollahi et al, 2016). Influenced by both positive and negative affect of helping others who have experienced trauma the ProQol measures compassion satisfaction and compassion fatigue. Compassion satisfaction relates to the pleasure derived from being able to do your work well. Compassion fatigue was split into two parts – burnout, represented by exhaustion, frustration, anger and depression, and - secondary traumatic stress, represented by negative feelings driven by fear and work-related trauma (Stamm, 2010). Employing 30 self-report Likert items, scaled from 1 to 5 with 1=Never and 5=Very Often, the ProQol is divided into three subscales of ten items each addressing dimensions of compassion satisfaction – with a sample item, ‘I feel invigorated after working with those I [help]’; compassion fatigue – with a sample item, ‘I find it difficult to separate my personal life from my life as a [helper]’; and behavioural burnout – with a sample item, ’I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help]’. Each subscale is summed to produce a total score ranging from 10-50 with higher scores indicating greater levels of burnout. Reliability and validity of the instrument have been previously established (Stamm, 2010, 2010b) with the researcher reporting internal reliability of the scale ranging from .84 to .90 on the three subscales and a structural reliability coefficient of 0.91 (Flairity, Gentry & Mesnikoff, 2013). In this study the burnout scale demonstrated good internal consistency  $\alpha = .72$  (time 1) and  $\alpha = .80$  (time 2), the compassion satisfaction scale demonstrated good internal consistency  $\alpha = .95$  (time 1) and  $\alpha = .91$  (time 2), and the secondary traumatic stress scale demonstrated good internal consistency  $\alpha = .70$  (time 1) and  $\alpha = .75$  (time 2),

*Perceived stress* (see above). In this study, the overall scale demonstrated good internal consistency  $\alpha = .93$  (time 1) and  $\alpha = .92$  (time 2).

### *Mental well-being*

The present study measured mental well-being via The Warwick–Edinburgh Mental Well-being Scale (WEMWBS; Tennant et al., 2007). The WEMWBS is a self-report measure of positive mental well-being that comprises 14 positively worded statements, rated on a 5-point Likert scale. Items include, “I’ve been feeling relaxed,” “I’ve been feeling cheerful,” “I’ve been dealing with problems well.” Possible scores range from 14 to 70. Higher scores on the 1-5 scale (*none of the time* to *all of the time*) reflect higher levels of mental well-being. Studies have shown that the WEMWBS has good content validity,  $\alpha = .91$ ; and test-retest reliability was high at .83 (Tennant, et al., 2007). In this study, the overall scale demonstrated good internal consistency  $\alpha = .96$  (time 1) and  $\alpha = .93$  (time 2).

### *Qualtrics<sup>©</sup>*

In order to generate a computer-based survey for the students and teachers, the software package ‘Qualtrics’ was selected. Qualtrics was chosen as it was recognised as one of the best software packages used for online data collection within many universities across the U.K and U.S (Hewson, & Stewart, 2014). Qualtrics is user-friendly, cost-effective and offers a range of personalised question types to select from. Furthermore, all online survey data collected using Qualtrics is both, password protected and stored securely on the Qualtrics server in accordance with EU data protection requirements. Using the Qualtrics<sup>©</sup> platform, each section of the questionnaire was composed in the same order as the psychometric instruments listed above. Following typing each question and response individually into the software package, each question and the response categories were labelled and coded for ease

of transfer to SPSS software. The Ulster University Logo was also incorporated within the survey design.

#### *Student Qualtrics Survey*

The student survey was presented in the following sequence: (1) student information sheet, which was a direct replication of appendix 21, (2) an assent form, which was a direct replication of appendix 22. If the student ticked ‘no’ to assent, they were redirected to a disqualification page and were not able to access the questionnaire items. This ensured only those who assented would participate, (3) participants were asked to answer a series of demographic questions in multiple-choice format, (4) each of the student measures were then presented sequentially. Items within each questionnaire were programmed to be NOT compulsory, however, \*participants were informed prior to accessing the survey by the researcher that they could put their hands up if they did not understand a question and wanted to ask for clarity, (4) after completion of the survey questions, participants were brought to a debrief page in case they were affected by some difficult questions (see Appendix 32).

Following data collection, all recorded survey responses were exported from Qualtrics to the Statistical Package for the Social Sciences (SPSS, version 25.0, IBM Corporation, 2019).

**\*Access to the school was not permitted thus a briefing talk by the researcher was not given.**

#### *Teacher Qualtrics© Study*

The teacher survey was presented in the following sequence: (1) a consent form, which was a direct replication of appendix 7. If the teacher ticked ‘no’ to consent, they were redirected to a disqualification page and were not able to access further, ensuring only those who consented would participate, (3) participants were asked to answer a series of demographic questions in multiple-choice format, (4) each of the teacher measures was then presented

sequentially. Items within each questionnaire were programmed to be NOT compulsory, (4) after completion of the survey questions, participants were brought to a debrief page in case they were affected by some difficult questions. Following data collection, all recorded survey responses were exported from Qualtrics to the Statistical Package for the Social Sciences (SPSS, version 25.0, IBM Corporation, 2019).

### *Analysis*

Collated data were coded, cleaned and prepared for analysis and entered onto a password-protected file using IBM SPSS V.25 statistical software. Descriptive statistics provided the analyst with percentages of male and females within the study, mean age of participants, and ethnicity.

*Comparing students from the intervention and control groups at time 2 (Feb. 2021).*

\*A series of linear regression analyses were carried out to model changes on various psychological scales of happiness, emotional regulation, resilience, rumination, perceived stress, anxiety, and depression. Score changes (gain scores) on each of these scales were computed for the period from Sept 2020 (baseline) until Feb 2021 (time 2). The main predictor variable was group membership (mindfulness vs. waitlist control) with baseline scale scores, gender and age specified as covariates.

***\*With an extremely low sample size it was not appropriate to conduct regression analysis.***

***It was decided to use independent samples t-tests in their place. Even with changing the analysis techniques, the study remains underpowered.***

*Comparing students from the intervention and control groups at time 3 (June 2021).*

\*An identical regression modelling approach was employed to examine gain scores among students computed for the period Feb – June in order to compare the same student outcomes of the delayed mindfulness group with those of the initial mindfulness group.

**\*Only pre- and post-data were collected due to ongoing restrictions.**

*Comparing teachers' baseline (Sept 2020) with time 2 (Feb. 2021).*

A paired samples t-test determined whether mindfulness practice increased levels of mental well-being and decreases levels of perceived stress and burnout in teachers who practised the mindfulness intervention.

*Comparing teachers' time2 (Feb 2021) and time 3 (June 2021).*

\*Changes in teacher scores from Feb – June will be examined using paired samples t-tests.

**\*Only pre- and post-data were collected due to ongoing restrictions.**

## 8.5. Results

### *Student Study*

Descriptive statistics provided the analyst with percentages of male and females within the study, mean age of participants, ethnicity, year groups, how often mindfulness was practiced, and a rating of mindfulness experience (see table 8.2). The age of participants within the intervention group ( $n = 22$ ) ranged from 11 to 17 ( $M = 15.59$ ,  $SD = 1.65$ ), and 12 to 18 ( $M = 15.79$ ,  $SD = 1.42$ ) within the control group ( $n = 14$ ). Females accounted for 63.6% of the intervention group, and 50% of the control group. The intervention group consisted of 90.9% White, whereas the control group consisted of 78.6% White. Most participants (86.5%) belonged to the year 12 and over year groups within the intervention group, with similar numbers (92.9%) representing these year groups within the control group. Within the intervention group, only 9% of respondents indicated practising mindfulness daily, near 14%

indicated practising 4 to 6 times a week, near 40% of participants indicated practising 2 to 3 times per week, while over 45% indicated practising just once a week. When asked to rate their experience of practising mindfulness 9% of respondents indicated a somewhat negative experience, with half (50%) of respondents indicating neither positive or negative experience, and a further 36% indicating a somewhat positive experience, only 4.5% of respondents indicated an extremely positive experience.

Table 8.2. Demographics of Intervention and Control Groups

	n	Min	Max	M	SD
Age	36				
Intervention	22	11	17	15.59	1.65
Control	14	12	18	15.79	1.42
		<b>Intervention (%)</b>		<b>Control (%)</b>	
Gender					
Male	15		8 (36.4%)		7 (50%)
Female	21		14 (63.6%)		7 (50%)
Ethnicity					
White	31		20 (90.9%)		11 (78.6%)
Asian	3		1 (4.5%)		2 (14.3%)
Other	2		1 (4.5%)		1 (7.7%)
Year Group					
Year 8	1		1 (4.5%)		
Year 9	2		1 (4.5%)		1 (7.1%)
Year 10	1		1 (4.5%)		
Year 12	13		6 (27.3%)		7 (50%)
Year 13	13		7 (31.8%)		6 (42.9%)
Year 14	6		6 (27.3%)		
Mindfulness Practice					
Daily			2 (9.1%)		
4-6 Times a Week			3 (13.6%)		
2-3 Times a Week			7 (31.8%)		
Once a Week			10 (45.5%)		
Rate Experience					
Somewhat Negative			2 (9.1%)		
Neither Positive nor Negative			11 (50%)		
Somewhat Positive			8 (36.4%)		
Extremely Positive			1 (4.5%)		

### *Time 1 vs Time 2 Intervention Group*

#### *Happiness*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of happiness reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 4.37$ ,  $SD = 1.38$ ), and post ( $M = 4.12$ ,  $SD = 1.09$ ) scores for overall Happiness scores,  $t (16) = .99$ ,  $p = .24$ ,  $d = .24$ .

Table 8.3. Time 1/Time 2 Means and standard deviations of scales pre and post-intervention and paired samples t-test results for Intervention Group (n=22)

	Pre-Intervention: $M (SD)^*$	Post-Intervention: $M (SD)^*$	<i>t</i>	df	<i>p</i>	<i>d</i>
Happiness	4.37 (1.38)	4.12 (1.09)	.99	16	.34	.24
Rumination	42.41 (13.13)	41.29 (11.33)	.44	16	.67	.11
Emotional Dysreg	46.47 (15.54)	42.82 (13.07)	1.28	16	.22	.31
Perceived Stress	17.88 (9.42)	17.76 (6.50)	.05	16	.96	.01
Resilience	69.82 (8.32)	70.18 (9.91)	-.15	16	.88	.04
Depression	7.47 (6.34)	8.59 (5.40)	-.69	16	.50	.17
Anxiety	6.24 (4.88)	6.18 (5.75)	.04	16	.97	.01

Note. M= mean; SD= standard deviation \*Happiness scale reflects the average of all items (range 1-7)

#### *Rumination*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of rumination reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 42.41$ ,  $SD = 13.13$ ), and post ( $M = 41.29$ ,  $SD = 11.33$ ) scores for overall Rumination scores,  $t (16) = .44$ ,  $p = .67$ ,  $d = .11$ .

#### *Emotional Dysregulation*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of emotional dysregulation reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 46.47$ ,  $SD = 15.54$ ), and post ( $M = 42.82$ ,  $SD = 13.07$ ) scores for overall Emotional Dysregulation scores,  $t (16) = 1.28$ ,  $p = .22$ ,  $d = .31$ .

### *Perceived Stress*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of perceived stress reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 17.88$ ,  $SD = 9.42$ ), and post ( $M = 17.76$ ,  $SD = 6.50$ ) scores for overall Perceived Stress scores,  $t (16) = .05$ ,  $p = .96$ ,  $d = .01$ .

### *Resilience*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of resilience reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 69.82$ ,  $SD = 8.32$ ), and post ( $M = 70.18$ ,  $SD = 9.91$ ) scores for overall Resilience scores,  $t (16) = -.15$ ,  $p = .88$ ,  $d = .04$ .

### *Depression*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of depression reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 7.47$ ,  $SD = 6.34$ ), and post ( $M = 8.59$ ,  $SD = 5.40$ ) scores for overall Depression scores,  $t (16) = -.69$ ,  $p = .50$ ,  $d = .17$ .

### *Anxiety*

A paired-samples *t*-test (see table 8.3) was conducted utilising intervention group data to compare overall levels of anxiety reported by students before and again following the mindfulness intervention ( $n = 22$ ). There was a no significant difference in pre- ( $M = 6.24$ ,

$SD = 4.88$ ), and post ( $M = 6.18$ ,  $SD = 5.75$ ) scores for overall Anxiety scores,  $t(16) = .04$ ,  $p = .97$ ,  $d = .01$ .

#### *Intervention versus Control Group (pre-intervention vs post-intervention)*

##### *Happiness*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Happiness scale  $F(1,33) = 1.37$ ,  $p = .25$ ,  $\eta_p^2 = .04$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

Table 8.4. Pre-Intervention and Post-Intervention Mean Scores by Group x Time Interaction Effects and Effect Sizes Using Partial Eta Squared.

Outcome	Intervention Group		Control Group		$F(interaction)$	$\eta_p^2$
	Pre-intervention $M (SD)$	Post-intervention $M (SD)$	Pre-Test $M (SD)$	Post-test $M (SD)$		
Happiness	4.36 (1.33)	4.13 (1.04)	4.34 (.89)	4.57 (1.29)	1.37	.04
Rumination	42.60 (13.14)	42.15 (10.18)	45.29 (14.62)	49.64 (13.11)	1.49	.05
ED	45.14 (14.94)	44.96 (13.58)	47.14 (14.14)	48.43 (12.60)	0.13	.00
PS	18.38 (8.94)	18.86 (6.52)	20.79 (5.75)	21.43 (6.05)	0.01	.00
Resilience	70.84 (8.62)	70.74 (10.01)	68.86 (9.21)	68.14 (4.99)	0.04	.00
Depression	7.19 (6.00)	9.33 (5.41)	9.50 (6.65)	10.75 (5.10)	0.14	.01
Anxiety	6.43 (4.78)	7.14 (6.21)	9.25 (6.33)	10.75 (5.82)	0.15	.01

Note. M= mean; SD= standard deviation.  $\eta_p^2$  = partial eta squared. Note. ED = Emotional Dysregulation. PS = Perceived Stress

##### *Rumination*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Rumination scale  $F(1,32) = 1.49$ ,  $p = .23$ ,  $\eta_p^2 = .05$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

##### *Emotional Dysregulation*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Emotional Dysregulation scale  $F(1,34) = .13, p = .72, \eta_p^2 = .004$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

#### *Perceived Stress*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Perceived Stress scale  $F(1,33) = .01, p = .95, \eta_p^2 = .001$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

#### *Resilience*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Resilience scale  $F(1,31) = .04, p = .84, \eta_p^2 = .001$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

#### *Depression*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Depression scale  $F(1,31) = .14, p = .71, \eta_p^2 = .005$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

### *Anxiety*

Next, a 2 (time) x 2 (treatment) mixed-model ANOVA comprising of both intervention and control data revealed a non-significant time x treatment interaction effect (see table 8.4) for the overall Anxiety scale  $F(1,31) = .15, p = .70, \eta_p^2 = .005$ . Thus, when comparing pre-intervention to post-intervention, there was no significant difference between the intervention group and control group.

### *Teacher Study*

Descriptive statistics provided the analyst with percentages of male and females within the study, mean age of participants, ethnicity, school role, and duration within the profession (see table 8.5). The age of participants within the sample ranged from 34 to 49 ( $M = 44.00, SD = 4.16$ ). Females accounted for 80% of the sample. The sample consisted of 100% White. All participants indicated their role within the school as teaching and learning support (100%) with most participants indicating having been in the profession for over 15 years (90%).

Table 8.5. Demographics of the Teacher Study on Mindfulness

	n	%	Minimum	Maximum	M	SD
Age	10		34	49	44.00	4.16
Gender						
Male	2	20				
Female	8	80				
Ethnicity						
White	10	100				
Main Staff Role						
Teaching and Learning Support	10	100				
Duration Within Profession						
8 – 14 Years	1	10				
Over 15 Years	9	90				

*Note.* M= mean; SD= standard deviation

### *Pre-intervention versus Post-intervention*

#### *Compassion Satisfaction*

A paired-samples *t*-test (see table 8.6) was conducted utilising teacher group data to compare overall levels of compassion satisfaction reported by teachers before and again following the mindfulness intervention ( $n = 10$ ). There was a no significant difference in pre- ( $M = 31.80$ ,  $SD = 8.68$ ), and post ( $M = 32.10$ ,  $SD = 7.11$ ) scores for overall Compassion Satisfaction scores,  $t (9) = -.22$ ,  $p = .83$ ,  $d = .07$ .

Table 8.6. Time 1/Time 2 Means and standard deviations of scales pre and post intervention and paired samples t-test results for Teacher Study (n=10).

	Pre-Intervention: $M (SD)^*$	Post-Intervention: $M (SD)^*$	<i>t</i>	df	<i>p</i>	<i>d</i>
CSAT	31.80 (8.68)	32.10 (7.11)	-0.22	9	.83	0.07
Burnout	26.00 (5.27)	27.30 (5.60)	-1.11	9	.30	0.35
STS	19.10 (3.81)	20.20 (4.52)	-1.19	9	.26	0.38
Perceived Stress	19.90 (7.37)	19.70 (6.54)	0.10	9	.92	0.03
Well-being	43.00 (10.10)	44.10 (7.58)	-0.70	9	.50	0.22

Note. M= mean; SD= standard deviation \*CSAT = Compassion Satisfaction. STS = Secondary Traumatic Stress.

#### *Burnout*

A paired-samples *t*-test (see table 8.6) was conducted utilising teacher group data to compare overall levels of burnout reported by teachers before and again following the mindfulness intervention ( $n = 10$ ). There was a no significant difference in pre- ( $M = 26.00$ ,  $SD = 5.27$ ), and post ( $M = 27.30$ ,  $SD = 5.60$ ) scores for overall Burnout scores,  $t (9) = -1.11$ ,  $p = .30$ ,  $d = .35$ .

#### *Secondary Traumatic Stress*

A paired-samples *t*-test (see table 8.6) was conducted utilising teacher group data to compare overall levels of secondary traumatic stress (STS)reported by teachers before and again following the mindfulness intervention ( $n = 10$ ). There was a no significant difference in pre-

( $M = 19.10, SD = 3.81$ ), and post ( $M = 20.20, SD = 4.52$ ) scores for overall STS scores,  $t(9) = -1.19, p = .26, d = .38$ .

#### *Perceived Stress*

A paired-samples  $t$ -test (see table 8.6) was conducted utilising teacher group data to compare overall levels of perceived stress reported by teachers before and again following the mindfulness intervention ( $n = 10$ ). There was a no significant difference in pre- ( $M = 19.90, SD = 7.37$ ), and post ( $M = 19.70, SD = 6.54$ ) scores for overall Perceived Stress scores,  $t(9) = .10, p = .92, d = .03$ .

#### *Well-being*

A paired-samples  $t$ -test (see table 8.6) was conducted utilising teacher group data to compare overall levels of well-being reported by teachers before and again following the mindfulness intervention ( $n = 10$ ). There was a no significant difference in pre- ( $M = 43.00, SD = 10.10$ ), and post ( $M = 44.10, SD = 7.58$ ) scores for overall Well-being scores,  $t(9) = -.70, p = .50, d = .22$ .

## **8.6. Discussion**

Improving the well-being of post-primary students is a major concern as this cohort are experiencing stress at unprecedeted levels, thus, the risk of anxiety, depression, substance abuse, along with other emotional and behaviour difficulties are increasing at an alarming rate (Twenge et al., 2019). Additionally, when considering well-being in schools, it may be imperative to also focus on teachers' well-being as it may prove difficult for teachers to be motivated to promote well-being programmes for their students when they may be at risk of occupational burnout themselves (Weare, 2015). However, scant research has been conducted in Ireland making it challenging to gauge the advantages of any well-being programme implemented within schools across the island (Burke & Minton, 2018).

The primary aims of the current study were to determine whether the daily practice of mindfulness-based stress reduction (MBSR) techniques via the Inner Explorer app (Bakosh et al., 2018) would lead to improved levels of emotional regulation and resilience, and decrease levels of rumination, perceived stress, depression, and anxiety in students. It was expected that those students who participated in the mindfulness-based intervention (MBI) programme (experimental group) would show more improvement in outcome measures in comparison to students who did not practice mindfulness (control group). Finally, the study assessed whether teachers who participated in the Inner Explorer programme had improved mental well-being, decreased levels of perceived stress, decreased levels of burnout, secondary traumatic stress, and increased compassion satisfaction.

It is worth stating again that due to the arrival of Covid-19 and the subsequent policies of school closures and restrictions the following study was profoundly constricted in its reach and inhibited in its practice.

The results of both the student study as well as the teacher study indicated no significant change in any outcome measures from pre- to post-intervention. Similar findings were reported when comparing students within the intervention group to students in the control group. Even though students who practised mindfulness showed a small decrease in levels of rumination and emotional dysregulation following the programme compared to a small increase in levels on the same measures within the control group, these findings remained insignificant and therefore do not demonstrate the efficacy of the audio-guided mindfulness programme. It should be noted that this school was the site for our previous pilot intervention Trauma-Informed Compassionate Schools programme aimed at staff members of the school (August 2019 – June 2020). School personnel at this school received training in trauma-informed practices and self-care for staff and may have been better attuned to their own and students' well-being. Therefore, it may be argued that during the height of a global pandemic

where isolation, social distancing, and the introduction of mask-wearing were denoted as key factors in combatting the virus, adolescents' and teachers' well-being did not diminish because of staff awareness of their own and their students' stress response systems. However, without access to a control school for comparative purposes, this argument may not be established at this point.

### *Limitations*

Our overall findings should be considered in light of several major limitations. An unprecedented number of students across European countries did not attend school for a protracted period due to the policies enacted by governments in an effort to slow the spread of Covid-19. Schools in NI closed their doors in late March 2020 and began blended learning (i.e., combining online learning with some school-based activity) in September 2020. The effect restricted access to school-based learning for students had on this research study was profound. It was not possible, because of these restrictions, to gain access to the school grounds for purposes of data collection.

Even if access was granted, only a certain number of classes were allowed to attend face-to-face instruction and staff at the school were under considerable pressure to reorganise the structure of their teaching methods to satisfy the 'new normal' conditions they had to meet. Therefore, it was decided by the research team in conjunction with school leadership staff that students would complete the time one and time two Qualtrics survey at home. The time three survey, as well as the waitlist control cohort, were discarded as the implementation of the original protocol would have proved to be a logistical challenge amidst the backdrop of a global pandemic.

Even though these adaptations to the study were in place before the beginning of the new school year (September 2020) it still proved difficult to collect data from students. It should

be noted here that the research teams' first point of contact within the school, i.e., the school principal, had taken long-term sick leave at this time. A member of the pastoral care team was deputized to lead the data collection efforts since direct access to students by the research team was not permitted. Unfortunately, this point of contact also had to take some time off due to a family bereavement and on their return, they indicated to the researcher via email as being under considerable stress in the absence of leadership from the school principal.

Notwithstanding the stress and pressure this staff member and others were under while attempting to provide adequate learning for students at the school, data collection proceeded for time one, albeit one month later than originally hoped. This placed constraints on the time needed to implement the 90-day mindfulness programme within the school. However, this proved not to be the only constraint. Due to teachers attempting to condense the curriculum into an ever-decreasing time schedule due to restrictions, the deputized pastoral care staff member indicated to the researcher that fidelity of the programme may have been impeded due to some staff not having time to implement the mindfulness programme every day. This was one of the major limitations of this study. In an observation of *Table 2* above, the reader may discern that 46% of participants in the intervention group practised mindfulness just once a week, with a further one-third of participants indicating practising just 2 – 3 times per week. It is thus unsurprising that results deriving from the intervention group did not show significant positive outcomes as mindfulness practice was recommended to be performed daily during the school week.

Another major limitation of this study was the extremely low number of participants who completed the time 1 and time 2 Qualtrics surveys. The researcher secured 360 responses in the time 1 survey. However, on further analysis of the data, it was recognised that many ( $n = 168$ ) of the student ID numbers were missing from these full responses leaving a total of 192 time 1 responses. It was immediately brought to the attention of the deputized pastoral care

member who further enquired into the reasons why many students had not filled in this part of the survey. It was then relayed back to the researcher that some students did not know their ID number so left it blank. This proved to be a major setback as the researcher now had limited numbers for matching pre- post-intervention tests. It is difficult, but not impossible, to lay blame for this oversight on the researcher or the above protocol. It was discussed in the preliminary meeting with the school principal and her team and was assumed by the research team following these meetings that student IDs were known to the students. Nevertheless, the school principal failed to inform the research team that student ID were not in use within the school. Perhaps, if the principal was available at the beginning of the first round of data collection, they would have known to ensure students were informed of their student ID, as it stood some students did not know this information.

At time two data collection, government restrictions were still in place and the school principal was still absent. During correspondence via email and phone with the deputised pastoral care member leading the effort on data collection on behalf of the researcher, the deputy ensured the researcher that they would have the school secretary inform students of their ID numbers before completing the survey. On closing the survey, the researcher again realised that out of 270 responses only 125 participants had given their student ID number. The researcher thanked the deputy for their efforts to facilitate data collection over the duration of the study. Unfortunately, when cleaning, coding, and removing responses with just demographic data completed the study was left with 36 matching pairs. This forced the researcher to abandon the initially planned regression analysis and amend to the use of independent samples t-tests even though the study remained underpowered. Other limitations such as the reliance on self-report questionnaires being subject to an array of concerns regarding that form of data-collection are moot. Participation numbers and the fidelity of the

intervention were extremely low therefore any results reported within this study may not be a valid reflection on the efficacy of the audio-guided mindfulness intervention.

### *Recommendations*

It is recommended that a full replication of this study is conducted (in line with Bronfenbrenner's (1992) Ecological Systems Theory, i.e., students, teachers, and parents) without the constraints and constrictions evident due to governmental policies of lockdowns and restrictions. Children and young people living in and experiencing socio-economic deprivation and childhood adversity are now at an elevated risk of experiencing toxic stress and associated social-emotional difficulties and related adolescent psychopathology such as anxiety and depression (Costello & Lawler, 2014). Effective strategies to tackle toxic stress should be an essential element of the school curriculum as young people can gain positive coping skills to counteract and prevent related psychopathology (Klattet al., 2012). Increasing executive function (EF) capacity may be a financially beneficial strategy over time as it may decrease the need for expensive special education, decrease societal costs stemming from dysregulated anti-social behaviour, and decrease the diagnosis of EF disorders such as attention deficit hyperactive disorder (ADHD) and conduct disorder (Diamond et al., 2007). Since schools are progressively focused on student well-being and the growth of qualities such as empathy, compassion, creativity, and prosocial behaviours, this makes a strong argument for mindfulness as a universal prevention programme within the school setting (Weare, 2015). Weare (2015) noted that school-based mindfulness programmes are inexpensive to implement, reducing the general burden on health budgets by focusing on preventative measures and interventions (Weare, 2015). Taking health interventions to adolescents rather than attempting to take adolescents to the intervention seems more efficient (Semple & Burke, 2019).

While recent evidence suggests that 80% of teaching staff currently experience symptoms of stress, anxiety, and depression at work, with half reporting to be severely stressed (National Union of Teachers, 2013). Buffering against burnout by developing important stress reduction skills in teachers are seen to be an essential foundation on which to further foster resilient students (Meiklejohn et al., 2012). Resilience denotes the ability to endure and thrive in the face of difficult stressful events and challenges. Having positive relational associations with school is considered a protective factor for student mental health, while developing students' social and emotional capacity has a positive influence on their ability to bounce back from adversity (Catalano & Hawkins, 2002).

### **8.7. Conclusion**

The overall objective of this study was to introduce a whole-school trauma-informed mindfulness-based intervention to support vulnerable young people and to aid in the wellbeing of staff. The study was designed to determine whether a trauma-informed, whole-school, mindfulness-based intervention implemented via the internet (90-day programme called Inner Explorer – audio-guided – 8 mins daily) would increase adolescent subjective happiness, emotional regulation and resilience, and decrease levels of rumination, perceived stress and psychopathologic responses in adolescents. In addition, the study sought to determine whether mindfulness practice increased levels of mental well-being and decreased levels of perceived stress and burnout in teachers. Unfortunately, due to the policies enacted by government in an effort to slow the spread of Covid-19, both fidelity of the intervention, and implementation of the full study protocol was severely impeded. Therefore, our findings did not demonstrate the efficacy of audio-guided mindfulness in improving the well-being of students or teaching staff. It is recommended that a full replication of the study be conducted when restrictions are lifted, and students can attend their schools unobstructed.

**Chapter 9.** Discussion, Recommendations, and Future Research Considerations

This chapter will explore the contribution this thesis has offered to the ACE and the trauma-informed literature. Regretfully, due to Covid 19 restrictions the implementation of the mindfulness intervention was severely inhibited, therefore this thesis was not able to contribute to this area. Nevertheless, this chapter will discuss clinical implications and recommendations based on the ACE/Stressful Events study, along with implications and recommendations for the trauma-informed literature review and intervention study. This chapter will consider future directions aimed at addressing trauma-impacted adolescents in schools, overall recommendations, along with the limitations of this thesis. To address these topics effectively, this chapter will be split into two phases: Phase one will discuss empirical chapter one involving stressful events in adolescence, with phase two discussing empirical chapters three and four concerning the trauma-informed narrative review as well as the whole-school trauma-informed intervention for school personnel. Both phases will provide a brief introduction followed by the aims, and a summary of the key findings.

### **9.1. Brief Introduction to Phase 1**

Environmental factors such as experiencing adversity, trauma, stressful events, and economic deprivation during childhood and adolescence are associated with a heightened risk of developing both internalising and externalising problems (psychopathology) at multiple time-points across the lifespan (Chapman, Dube, & Anda, 2007; Little & Akin-Little, 2013). One mechanism through which psychopathology may develop in children and young people is that of being exposed to toxic stress. This form of stress exposure represents strong, frequent, or prolonged activation of their stress response systems without the buffering effects of supportive and nurturing environments (Shonkoff, 2014). Exposure to this form of response may cause physiological adaptations that disrupt brain architecture and other physiologic systems in the body (Schniederman, Ironson, & Siegal, 2005; Shonkoff, Boyce, & McEwen, 2009). These functional and structural adaptations affected by strong, frequent, or prolonged

activation of the stress response system are manifest even after the stress has subsided with deleterious consequences for child and adolescent learning and to a multitude of physical and mental illnesses throughout the life course (Shonkoff, Boyce, & McEwen, 2009; McLaughlin, Conron, Koenen, & Gilman, 2010).

Findings from the ground-breaking Adverse Childhood Experiences (ACEs) study (Felitti et al., 1998) led to an understanding that stress from cumulative childhood adversities can severely affect and diminish mental well-being (Bellis et al., 2014; Marryat & Frank, 2019; McGavock & Spratt, 2012). Cumulative childhood adversities deleteriously impact on adolescent development as children and adolescents who are subject to multiple stressors are more likely to experience peer problems, have a higher probability of school drop-out, being unemployed as adults, and endure economic deprivation throughout the life course (Borelli & Prinstein, 2006; Kim, Conger, Elder Jr, & Lorenz, 2003; Kim-Cohen et al., 2003; Nolan, Flynn, & Gaber, 2003; Rudolph, Flynn, & Abaied, 2008).

Utilising latent class analysis, mental health researchers have shown different profiles of adversities proposing distinct pathways to outcomes depending on what type and combination of childhood adversities experienced (Lanier et al., 2017; McChesney, Adamson, & Shevlin, 2015). These retrospective studies of adult participants demonstrated that it is possible that an ACE score may not be as meaningful as the specific typologies of childhood adversity experienced. However, there is a paucity of empirical research studies identifying specific profiles of childhood adversity and stressful life events with concurrent adolescent psychopathology. Moreover, only a few of these studies use adolescent self-reporting of their adverse, stressful experiences (Balistreri & Alvira-Hammond, 2016; Baron-Lee, Bonner, Knapp, Bright, & Hinojosa, 2015).

The advantage of this empirical chapter is that it addressed some key limitations of the extant literature that use retrospective recollection of adversity in adulthood or use caregiver reports of adversity due to the sensitive nature of questioning. Additionally, focusing on combinations of stressors or stress profiles on adolescent psychopathology can help inform the development of prevention and intervention programmes set to improve child and adolescent mental health.

### **9.1.1. Phase One – Aims (First Empirical Chapter)**

Therefore, the aims of the first empirical study within this thesis were to a) attempt a conceptual expansion of the ACEs gamut experienced by young people to include other distressing events that may be precursors to psychopathologic responses, b) examine the nature and frequency of self-reported stressful and traumatic events within an adolescent sample in Northern Ireland, c) assess poly-victimisation across 20 stressful and traumatic events, d) utilise latent class analysis to determine whether childhood adversity profiles of reported stressful and traumatic events exist within the sample, e) assess the associations between childhood adversity profiles and subsequent psychopathologic responses, and f) determine the role of area deprivation and its impact on the relationship between childhood adversity profiles and adolescent psychopathology. Finally, to our knowledge, no such study has been undertaken in this way before with this age group.

### **9.1.2. Phase One – Summary of Key Findings (First Empirical Chapter)**

Several notable and unique findings were revealed. This chapter demonstrated that the original ten ACE categories may not capture the wide range and complexity of childhood adversity and supports the inclusion of peer relationships/difficulties along with indicators of deprivation to the ACE checklist as these were found to be strong predictors of psychopathology. This chapter also found that stressful events among this cohort were highly prevalent with adolescents on average experiencing approximately four stressful events, with

a further 40% of students experiencing seven or more, only 10% of the sample responded to experiencing no stressful events. The most common stressful events reported included having someone close dying, had or someone in the family having had a serious illness or accident, having had serious arguments or fights with friends and with either or both parents, having difficulty making or keeping friends, being bullied at school, having parents who are separated or divorced, and having close friends or family members attempting suicide or self-harming. The adolescent sample reported low levels of physical abuse and sexual abuse in comparison to previous studies (Madge et al., 2011). Nevertheless, the study demonstrated a high incidence rate of stressful events experienced by adolescents in N.I. However, reported findings from studies that have utilised the stressful events and problems checklist on an adolescent cohort are scant so comparisons with other regions are not available.

Adolescents who had experienced multiple stressful events supported a dose-response relationship with adolescent psychopathology. Similar to findings from a recent systematic review and meta-analysis, this study showed adolescent females reporting more stressful events and adversity than males, females were also more likely to experience emotional symptoms, anxiety, and to be more pro-social than their male counterparts, whereas males were more likely to experience externalising problems and depression (Petruccelli, Davis, & Berman, 2019). One possible causal explanation for this difference in gender is that females are more relationally oriented and show greater affiliative needs during adolescence, they are also more reactive to peer stress and are more likely to experience internalising problems in comparison to their male counterparts (Hankin et al., 2015). Moreover, the relationship between stressful event exposure and psychopathological response demonstrated the cumulative effect of stress on the organism. The risk for mental ill-health can increase based on the number of stressful events these adolescents have endured. This study illustrated the

dose response relationship and added to the thin volume of evidence on the relationship between stressful life events and adolescent psychopathology (Burke & Minton, 2019).

This chapter also examined profiles of stressful events and their relationship with adolescent psychopathology. Utilising a person-centered approach, latent class analysis of the 20-item Stressful Events and Problems checklist did not show any distinct separate profiles of stressful event experience. The three-class solution included a low-risk class (53.5%), an immediate-risk class (3.7%), and an at-risk class (42.9%). These findings tentatively indicate that within post-primary schools there seems to be a generally healthy class of students (low-risk class), a generally unhealthy class of students (at-risk class), and a high stress-risk class of students (immediate-risk class). Notably, adolescents in the immediate-risk class were 38 times more likely to have experienced bullying, were over 100 times more likely to witness their parent argue/fight, and 30 times more likely to have family or friends' complete suicide in comparison to the low-risk class. In contrast to the low-risk class, adolescents in the immediate-risk class were 3 times more likely to be female. There was no distinct sexual abuse class, however, consistent with previous research associating sexual abuse with a high risk of poly-victimisation (Barnes et al., 2009), sexual abuse was more commonly reported among respondents in the immediate-risk class.

The numbers in the respective classes closely correlated with other research which indicated that approximately 60% of children have healthy emotional bonds with their parents, whereas 40% do not (Shemmings & Shemmings, 2011). Even though this study did not assess parental attachment thus cannot claim that respondents in the at-risk and immediate-risk classes have underdeveloped parental attachment issues, it is still worth noting the importance of stable and healthy adult relationships have on the psychological and social development of children and young people. These children may not have developed adequate

coping skills to handle stress or adversity and thus are more prone to internalising and externalising problems (Shemmings & Shemmings, 2011).

Furthermore, children and young people raised in an environment where family dysfunction is commonplace will often find it difficult to form and maintain healthy relationships. This has been shown to lead to lasting psychological problems such as internalising problems and suicidality (Cook et al, 2007; Petruccelli et al., 2019). Notably, all adolescents in the immediate-risk class within this study responded to experiencing relationship difficulties, a finding that demonstrates how important interpersonal relationships are to good mental health (Rudolph et al., 2020). The empirical research literature suggests that adolescents experiencing difficult school and social lives may be more exposed to feelings of rejection and failure triggering emotional symptoms including depression (Powell et al., 2020). As adolescents tend to depend more on their peers than their parents for social support; good friendships, feelings of acceptance, and peer interactions may be important factors in building a healthy self-concept and ameliorating the onset of depressive symptoms. Recent literature has shown that a healthy self-concept is key to psychological well-being but may be affected by poor social relationships or stressful events (McMahon et al., 2020). Poor quality relationships may affect health and can frequently result in poor psychological well-being and depression (Anderson & Teicher, 2008). In a cascade effect, depression may foster avoidance and conflict within relationships steering the individual to withdraw from social engagement eliciting further feelings of rejection, failure and exacerbation of further additional stress (Rudolph et al., 2000).

Next, this chapter revealed, and in accordance with previous findings, adolescents who reported multiple exposures to stressful events supported a dose-response relationship with adolescent psychopathology (Lew & Xian, 2019), with both the at-risk and immediate-risk classes reporting higher anxiety, depression, and worse broad psychopathology than the low-

risk class. These findings lend support to the premise “*more is worse*” in terms of the sheer number of stressful events experienced (Scott-Storey, 2011, p.1). However, one disadvantage of operationalising cumulative adversities is that it invalidates the influence of adversity characteristics, such as frequency, severity, and duration on mental health outcomes (Scott-Storey, 2011). This empirical study did not assess the frequency of individual events, the emotional intensity felt by respondents to these events, nor whether these events occurred daily, weekly, or monthly and so on. Though beyond the scope of this thesis, assessing the frequency and chronicity of exposure would provide a deeper understanding of the implications of each item on the stressful events checklist to adolescent psychopathology.

Following this, the chapter showed that high deprivation did not predict membership of any of the classes as expected. However, the measure, proxied by Super Output Area (SOA), did predict Peer Problems within each class individually, as well as predicting internalising problems in the immediate-risk class. Unexpectedly, indicators of deprivation were lowest within the immediate-risk class in comparison to the other two classes. As participating schools belonged to a region of N.I. with historically high rates of economic deprivation, this anomaly may be explained by the lack of variance of deprivation within the sample.

Notwithstanding this anomaly, these findings are in line with the empirical literature that suggest that persistent poverty has strong associations with Peer Problems and internalising problems (Fitzsimons, Goodman, Kelly, & Smith, 2018) for two reasons. First, low socio-economic status creates stress within the household affecting child mental health. Second, socio-economic status is highly correlated with other factors affecting child mental health, such as poor housing quality or marital stability as well as scarcity of “bio-survival tickets” (money; Wilson, & Regardie, 1997, p.52) which can also lead to chronic or toxic stress within the household (Berger, Paxson, & Waldfogel, 2009; Strohschein, 2005).

### **9.1.3. Phase one: Clinical Implications**

Identification of stressful events or ACEs in the adolescent population along with knowledge of the cumulative risk of exposure that these events may have on adolescent development provide the basis for targeted clinical and holistic intervention and prevention strategies aimed at lowering the incidence of adolescent exposure to stress, preventing cumulative exposure, and minimising the risk of the deleterious impact of stress on development. This research indicates that exposure to cumulative stress and poly-victimisation are important in assessing risk for the development of adolescent psychopathology.

The value of this research demonstrates the significance of early screening for ACES in adolescent development within both clinical and child protection services along with other settings that serve as a significant point of entry to services for adolescents such as schools and primary care. However, this contrasts to some clinical literature that suggests screening for trauma in a non-therapeutic context may significantly harm trauma-impacted students (Cole, Eisner, Gregory, & Ristuccia, 2013, p.54). Cole et al. argue that institutional screening for ACEs may serve to reinforce the common impression that trauma-informed interventions need to centre on individuals rather than school policies, practices, and system-wide changes to reduce harm (Cole et al., 2013, p. 54). While trauma-impacted students and their families deserve compassion and kindness, they are in greater need of “material and lasting resources” (Winninghoff, 2020. p. 41), accordingly, ethical care should be prioritised when it comes to taking an ACE count in schools to avoid re-traumatisation of trauma-impacted youth.

Notwithstanding, limitations to screening that employ available instruments to survey ACEs are numerous. For example, it is important to note the paucity of clinical guidelines available defining poly-victimisation and how such information is combined in assessing risk. Currently, there are no available existing measures that provide an exhaustive list of possible ACEs. Additionally, ACEs are weighted equally on existing instruments, it seems improbable

that these individual ACE items confer equal risk of stress related traumatisation and their long-time effects. Consequently, results attained through existing measures can only provide a proxy of the level of ACEs experienced by adolescents. Furthermore, quantifying the total number of ACEs without enquiring about protective factors may lead to decisions pertaining to clinical care and services based upon misclassification of risk (Anda et al., 2020).

Further research may test prediction models that account for risk, including polyvictimisation, abuse, loss, peer relationships and problems, household dysfunction, community violence, and multiple levels of deprivation, as well as protective factors such as resilience (Fergusson et al., 2008). Models accounting for both risk and protective factors may inform the development of more sophisticated assessment measures with the potential to target predominantly high-risk adolescents and improve the allocation of scarce and diminishing costly intervention strategies. Therefore, clinical interventions need to have the ability to span the potential range of young people's difficulties, identify individual resilience that can be bolstered through therapy along with the need for both whole family and whole school approaches to intervention.

#### **9.1.4. Phase one: Recommendations**

These findings reveal that there is a small yet meaningful number of young people in schools who need immediate intervention to change their life-course (immediate-risk class). These young people may benefit from individual and family therapies (Das et al., 2016), and programmes aimed at stress reduction (Hofmann, Sawyer, Witt, & Oh, 2010). However, the young people who pose as moderate risk (at-risk class) are often unseen and go undetected. This cohort are offered little by the means of intervention and partake in few prevention programmes aimed at reducing anxiety, depression, and behavioural problems. Therefore, and in line with the findings of this study, it is recommended that broad intervention or prevention programmes targeting whole-school mental health ensuring that every young

person learns healthy coping skills in the face of adversity are implemented (Essau, Conradt, Sasagawa, & Ollendick, 2012). In addition, schools need to ensure that enhancing relational connectedness are at the core of these programmes. Moreover, it is recommended that within post-primary schools all staff be trained to become more ACE-informed and trauma responsive. A trauma responsive school can provide safety, connection, and assurance for their students, as well as delivering psychoeducation around the theory and practice of emotional and behavioural self-regulation and how these links with self-concept, social skills, and academic skills (Wolpow et al., 2009). An ACE-informed and trauma-responsive whole-school approach requires school staff to support all students regardless of exposure to risk. Training would provide staff the knowledge and skills to act as an always available adult (Bellis et al., 2017) empowering students to seek support when needed, and enabling staff to build resilience in students to protect against deleterious outcomes associated with stress and ACEs (Barton et al., 2018).

## **9.2. Brief Introduction to Phase 2**

Phase two of this thesis incorporates both empirical chapters two (narrative review) and three (trauma-informed training intervention in schools). This brief introduction will comprise of understanding the nature of trauma as well as shifting perspectives and building emotionally healthy school cultures. This section of the chapter will then outline the aims of the narrative review, provide the reader with a summary of findings from that review before progressing to the trauma-informed intervention aims and the summary of key findings.

Due to the large amount of time children spend at school, teachers and other ancillary staff find themselves in a unique position to detect and prevent child abuse and neglect (Baginsky, 2007). School personnel are also in a unique position to protect children and young people from further ACEs and retraumatisation. This position pivots on societal and educational knowledge and skills relating to and recognising the signs and symptoms of trauma and how

to intervene when faced with trauma-impacted youth (Treacy & Nohilly, 2020). With the realisation that ACEs, trauma, and other stressful events pose a serious threat to the young person's ability to learn (Creeden, 2007) and their ability to regulate their behaviours (Geddes, 2003) there has been an emphasis recently on providing schools with interdisciplinary knowledge on trauma, ACEs, and the deleterious effects of toxic stress (Maynard, Farina, & Kelly, 2019).

In line with a Bronfenbrenner approach, providing *all* school personnel interdisciplinary knowledge that they were unlikely to receive in formal teacher/staff pre-service training is a key factor in all trauma-informed instruction resources. Findings from neuroscience, neurobiology, and psychology assist school personnel to understand how trauma affects students' biological, psychological, and social well-being, including how trauma may manifest in classroom behaviours (Wolpow et al., 2009). This form of psychoeducation is delivered via presentation and video and is considered foundational in shifting school personnel perspectives of students who present with trauma histories (Thomas, Crosby, & Vanderhaar, 2019).

This thesis recognised the need to intervene in schools on behalf of trauma-impacted youth as currently many teachers and school personnel are unaware of the psychological maltreatment inflicted on students when they (teachers) embrace ridicule or sarcasm to counteract classroom and hallway misbehaviour, serving only to amplify emotional and behavioural outbursts of their students (Schiff & BarGil, 2004). In the face of intense humiliation or shame, students' reactions can range from strong urges to self-destruct, or an activation of the fight response leading to disruptive, sometimes explosive behaviours (Fletcher, 2011). Shame and humiliation represent individual failings that manifest on self-concept in an intensely negative manner (Babcock & Sabini, 1990; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996).

However unintentional, students being shamed or humiliated by adults' lead to unintended negative effects on that child's mental health. This form of behaviour from teachers demonstrates a lack of behavioural management skills and likely due to feelings of helplessness stemming from previous failed attempts at curbing student misconduct (Crosby, 2015). Addressing this lack of understanding and awareness of underlying unaddressed trauma reactions in the classroom can resolve many problems created by unintentional or intentional methods of punishment (Crosby, 2015; Axelson, 2019).

The literature surrounding ACE awareness and trauma-informed practice places a strong emphasis on applying new information to engage responses that are empathetic to students who are trauma-impacted while dis-engaging deficit perspectives when students display problematic or disruptive behaviour. Addressing trauma-impacted students through a deficit approach, thus intensifying shame or humiliation, may copper fasten students' negative self-concept and lead to self-disgust, anger, and spiralling conduct problems within the classroom (Babcock & Sabini, 1990).

In an effort to avoid spiralling conduct problems in the classroom and in order to ameliorate negative self-concepts of students, teachers are instructed to engage responses that are empathetic and compassionate (Wolpow et al., 2009). The Heart of Learning and Teaching Handbook (Compassionate Schools; Wolpow et al., 2009) provide six principles in this regard. These principles are considered as practical application tools to assist teachers in implementing compassionate and resilient strategies intended to facilitate success in the school environment.

The six principles for compassionate instruction and discipline in the classroom comprise of:

- (a) always empower, never disempower;
- (b) provide unconditional positive regard;
- (c) maintain high expectations;
- (d) check assumptions, observe, and question;
- (e) be a

relationship coach; and (f) provide guided opportunities for helpful participation (Wolpow et al., 2009). The focus within this handbook is to shift school staff personnel perspectives from viewing students' dysregulation of emotion, physiology, and behaviours as innately bad or oppositional towards looking through a more trauma-focused lens and viewing each individual student as having been affected by their experiences (Blaustein & Kinniburgh, 2017; Thomas et al., 2019; Wolpow et al., 2009).

While some students require specific interventions to address their trauma symptoms, the research literature places greater emphasis on the creation and maintenance of a whole-school approach where everyone is treated with compassion and is empowered and supported in who they are (Herman, 1992; Wolpow et al, 2008). This requires building safe and meaningful relationships between staff, staff and students, and students themselves (Brunzell, Stokes, & Waters, 2016; Thomas et al., 2019; Stewart, McWhirter, Rowe, Stewart, & Patterson, 2007; Wolpow et al., 2008). However, teachers and other school staff find working with trauma-impacted students challenging and may not feel equipped to fully embrace those responsibilities or may avoid attempting to do so altogether (Blitz, Anderson, & Saastamoinen, 2016). Additionally, many staff with their own high level of ACEs and trauma history may be re-traumatised by student behaviour with teachers reporting that stress resulting from students' disruptive behaviour being central to experiences of burnout and reasons for leaving the profession (Fazel et al., 2014).

### **9.2.1. Phase Two – Aims (Narrative Review)**

With a dearth of review studies focusing on trauma-informed implementation in schools it was essential to synthesise the existing literature to highlight successful trauma-informed teaching pedagogies and programmes that raised awareness of stress, adversity, and trauma, the emotional, behavioural, and social consequences of exposure, as well as the most effective way to act in response. Therefore, the aims of empirical chapter two were to 1)

examine the literature on whole-school trauma-informed practice, 2) analyse findings, 3) consider similarities and differences between programmes, 4) highlight efficacious programmes, along with sustainability of practice beyond implementation.

### **9.2.2. Phase Two – Summary of Key Findings (Narrative Review)**

The review chapter has shown that empirical research focused on the efficacy of whole-school trauma-informed interventions are still in their infancy. The review found that the few studies that were available for selection were characterised by variability in intervention models, aims, population, theoretical perspective, intervention duration, measures, type of analysis, and outcomes. Due to the dearth of research studies available for selection and the variability in approach, this chapter suggests that any generalization of the findings may be presently premature.

Notwithstanding the foregoing, this review did find some consistency in research design with five studies utilising pre-post-test designs, three studies opting for a mixed methods approach, with one study using only focus groups. No study available for selection in this review used a control group. Another commonality shown in the review within selected studies was that whole-school trauma training utilised interdisciplinary knowledge from neuroscience, neurobiology, and psychology to impart how trauma affects students' biological, psychological, and social well-being, including how trauma may manifest in classroom behaviours. These professional development programmes were shown to improve attitudes of school personnel towards trauma-impacted students and shown to be a catalyst of change and fundamental to becoming trauma-informed. School personnel also received training on secondary trauma and how to mitigate burnout through self-care consistent with the literature (Bloom, 2016).

Attempting to ascertain what led to successful trauma-informed outcomes this review found school fit and staff perceptions ranked as the most influential factors. The selected studies found that empowering staff to voice their concerns and the systemic barriers they experienced led to staff acceptability and effective implementation of the intervention model. This is in line with SAMHSA's (2014) empowerment and safety principles as well as the principle to respond to staff well-being. Key organisational factors to effective implementation were policies relating to disciplinary practice. Discipline changes were composed of increasing empathy, relational connection, and endorsing 'time in' rather than 'time out' of class and avoiding punitive approaches while favouring restorative practices. These approaches to discipline are congruent with the evidence-based literature on trauma-informed practice (Cole, Eisner, Gregory, & Ristuccia, 2013). Other organisational changes found in the review comprised of some form of care-coordination teams to screen for trauma-impacted students and to improve implementation through collaboration with parents/caregivers and the local community. These changes are also in line with best practice within the literature (SAMSHA, 2014).

Last, none of the selected studies in this review measured staff well-being even though staff well-being is considered a crucial component in both the practice and sustainability of trauma-informed approaches in schools (Bloom, 2016; Cole et al., 2013). Cole et al. (2013) draw attention to the importance of establishing school environments that ensure both students and staff alike feel safe and supported. This is deemed foundational and lays the bedrock for addressing the negative impact of trauma, ACEs, and stress, through trauma-informed practice in schools (Cole et al., 2013).

### **9.2.3. Phase Two –Implications (Narrative Review)**

The review chapter spotlighted that empirical evidence for whole-school trauma-informed interventions to teaching and learning is still in its infancy. One of the problems with

implementing empirical-based interventions in schools is the lack of funding available for individual schools to provide adequate evaluations even if that school had succeeded in the delivery of the intervention. Three of the selected studies cited in this review experienced a lack of, or absence of funding (Avery et al., 2021; Day et al., 2015; Perry & Daniels, 2016). In addition, not one of the selected studies utilised a control group within the research design. Bolstering the research design by including a control group would increase the power of the study while producing more robust empirical results (Higgins et al., 2013). Moreover, effective implementation of trauma-informed practice in schools must rely on professional development and supports for staff to ensure competence in providing support for their students and fostering their own well-being (Hoover, 2019).

#### **9.2.4. Phase Two – Aims (Trauma-Informed Intervention)**

The rationale for empirical chapter three involved an urgent need to intervene to reduce re-traumatising and burnout in school staff, to increase staff understanding and awareness of the impact of trauma on student learning and behaviour, how to mitigate misbehaviour in the classroom, and to implement self-care and community-care strategies to assist school staff in their daily duties. To our knowledge, within the UK and Ireland, only one study has been published on whole-school trauma-informed approaches within educational settings (Barton et al., 2018), no whole-school study within the empirical research utilised a control group in the research design or assessed school personnel levels of well-being denoted within this study as secondary traumatic stress and burnout. This gap in the literature provided this study the unique opportunity to evaluate whole-school trauma-informed training within the education system leading to novel contributions to the literature.

Therefore, the aims of the third empirical chapter were to determine 1) whether a 2-day professional development training (workshop) in trauma-informed approaches would change school personnel attitudes related to trauma-informed care post-workshop and if any changes

made were maintained at 6-month follow up, and 2) whether the workshop influenced school personnel levels of compassion fatigue, e.g., burnout, and secondary traumatic stress (STS), and levels of compassion satisfaction (CSAT) at 6-month follow up. This empirical chapter utilised a waitlist control group in the study design to ensure findings were robust. Additionally, quantitative data were supplemented by qualitative focus group data. A mixed methods approach was selected to give voice to teaching staff and to ensure quantitative findings were grounded in participants' experiences.

#### **9.4.5. Phase Two – Summary of Key Findings (Trauma-Informed Intervention)**

Again, several novel notable findings were revealed in this chapter adding to the existing knowledge base. This empirical chapter found that both quantitative and qualitative data supported the positive impact of Compassionate Schools training on school personnel attitudes towards trauma-impacted students. In relation to quantitative findings, the study assessed measures on attitudes related to trauma-informed care pre- and immediately following the Compassionate Schools training within the intervention group. Findings demonstrated an immediate, positive, significant effect demonstrating the efficacy of trauma-informed training on school personnel attitudes.

Next, the study assessed whether any change from pre-training attitude scores within the intervention group to the 6-month follow up scores took place. Again, this study demonstrated a significant positive change in attitudes assessed longitudinally suggesting that those participating in the training experienced lasting positive effects to their attitudes related to trauma-impacted youth. These findings were bolstered by the theme *Role Adaptation* developed from the focus group interviews with staff. Participants within the focus groups agreed that they were now more aware of the profound impact trauma can have on their students and asserted that the training has assisted them in their ability to cope with

classroom misbehaviour. These findings on attitudinal change replicate previous studies evaluating the CS programme in an educational setting (Parker et al., 2019).

Likewise, the study assessed whether the training impacted on levels of compassion satisfaction (CSAT), secondary traumatic stress (STS), and burnout within the intervention group. The study findings revealed no change in CSAT but a significant decrease in STS and burnout measured at 6-month follow up. Yet again, this study demonstrated significant positive change this time in STS and burnout longitudinally suggesting that school personnel participating in the training experienced lasting positive effects.

It may be worth mentioning that when conducting the focus group interviews 3 months after providing school personnel with the Compassionate Schools training both the researcher and the CI of the study were confronted with some dissenting voices within the group. Some staff voiced concerns pertaining to the lack of school leadership and direction available to them since the training as well as concerns around systemic issues and the behavioural management policy. Staff pointed out that there was no change to behavioural management policy since training and that they were not receiving any additional supports in the classroom.

The research team immediately brought forward the concerns to the school leadership team via a whole-school booster session on classroom management and self-care strategies. During the booster session all school personnel attending listened as the CI read out excerpts of the focus group interviews and asked for an open discussion on the floor between the school leadership team and teaching staff. This provided teaching staff an opportunity to voice their concerns and resolve issues that may have been preventing teachers from investing in the programme wholeheartedly. This is in line with SAMHSA's (2014) empowerment and safety principles as well as the principle to respond to staff well-being. Following this, senior

leadership, teaching staff, and the study research team met to discuss ideas and devised a new behavioural management policy that was more inclusive and supportive of a whole-school trauma-informed approach.

Finally, the study compared findings from the intervention group with findings from the waitlist control group on all measures pre-training and at 6-month follow up. When comparing both groups over the two time-points the intervention group demonstrated significant gains on overall attitudes and scores on self-efficacy and reactions to the work as well as significant decreases in levels of burnout compared to the waitlist control group. In relation to these quantitative well-being findings, a possible causal interpretation may be that because self-efficacy is derived from positive peer support and strong leadership direction, school personnel may have prevented increases in burnout due to buy-in from school leadership (Skaalvik & Skaalvik, 2010). When senior leadership took ownership of the programme and provided much needed support to their staff as well as espousing high expectations of classroom management and staff self-care, staff self-efficacy, which was measured by the teacher's ability to educate, attend to, and respond to trauma-impacted students, flourished, in turn, diminishing symptoms of burnout.

In accordance with our systematic narrative review chapter, this study made a major contribution to the trauma-informed schools' literature as it was the first study evaluating a whole-school trauma-informed programme that established internal validity by way of a control group. Strengthened by this quasi-experimental design, our findings demonstrated that providing psychoeducation to teaching staff that they do not receive in pre-service training had an immediate and longitudinal impact on attitudinal change towards trauma-impacted students. Another major contribution towards the literature included assessing teaching staff's well-being following the implementation of a whole-school trauma-informed programme. Our study seemed to demonstrate that modules on self-care and recognising and

responding to stress as well as school leadership buy-in de-escalated patterns of burnout in participants within the intervention group. These findings are novel and add to the small yet growing body of evidence-based research on trauma-informed schools.

#### **9.4.6. Phase Two – Recommendations (Trauma-Informed Intervention)**

While it is acknowledged that most educators receive little formal training in recognising the signs and symptoms of adverse childhood experiences, trauma, or other stressful events in their student population, they receive no training in the self-care necessary to prevent secondary traumatic stress and burnout in themselves (Wolpow et al., 2009). Regarding insufficient training of school personnel, it is incumbent on school leadership to engage in activities to foster organisational culture, policies, and practices that support their staff. These proactive activities comprise of focusing on prevention concerning stress management, bolstering natural support systems for all school personnel, and an ongoing evaluation of efforts to minimise compassion fatigue (SAMHSA, 2014). It is further recommended that school administrators be responsible for embedding practices that encourage self-care for all school personnel who are at the coalface in dealing with trauma and adversity (Thomas et al., 2019).

Furthermore, and in line with our trauma-informed study, any trauma-informed approach should encompass all school personnel who are in contact with young people. Schools are comprised of caring adults with diffuse roles, all personnel who have contact with students, including but not limited to janitors, cafeteria staff, grounds staff, bus drivers, and receptionists, are important to school culture and may be the only people that students form a connection with (Thomas, Crosby, & Vanderhaar, 2019). Additionally, trauma-informed approaches in education should not be viewed as once-off training or a short-time fix as success depends on sufficient groundwork being laid to develop genuine buy-in. As shown in the study above, teaching staff must have an avenue to voice any concerns they may have to

teaching pedagogy, behavioural management policy, and any systemic barriers they experience. Giving staff a voice led to increased staff acceptability and effective implementation of the Compassionate Schools intervention model within this study and is in line with SAMHSA's (2014) empowerment and safety principles (SAMHSA, 2014).

Moreover, most schools will not have the budget to hire outside specialists to deliver a trauma-informed programme to their personnel. Even if they had the budget to hire specialists on a once-off or intermittent basis it may still prove to be unsustainable due to high rates of teacher attrition and the cycle of hiring newly accredited staff from pre-service training colleges that receive no training in trauma-informed approaches. Therefore, this chapter strongly recommends that school administrators at State level advocate for teacher training colleges in N.I. and within the Republic of Ireland to provide standalone or integrated modules that comprise of well grounded, and methodology rigorous research and practice that compels changes in teaching pedagogy towards a more compassionate-based trauma-informed approach. This would ensure that teachers are recognizant of their unique role to improve the outcomes of trauma-impacted students and support the growth of whole-school care going forward.

## **9.5. Limitations of the Thesis**

A major limitation of this thesis related to the data collection and fidelity problems of the audio-guided mindfulness empirical chapter due to Covid-19 restrictions and lockdowns. These government policies, put in place to protect the vulnerable, had detrimental effects on conducting research in schools over this period. Not only did the study receive little participation from students and teachers, but the study also had to abandon parts of the original study protocol which included assessing whether parental participation in the mindfulness programme was advantageous to the young people in their care over and above those young people who practiced without parental participation. With this limitation

acknowledged, it is recommended that the study protocol to be re-run if/when the opportunity arises.

Further limitations to this thesis were exposed in the stressful events chapter. Due to the study being cross-sectional, it was not possible to determine the causal order of stressful events and domains listed in the SDQ. Furthermore, the study did not have access to data on the frequency, the emotional intensity felt, or the duration of these events. Future research on stressful events may comprise of prospective, longitudinal, and qualitative studies that elicit age, frequency, and chronicity of exposure to provide a comprehensive understanding of the implications of experiencing stressful events on adolescent psychopathology. Additionally, even though the adolescent self-rated version of the SDQ was shown to be a reliable and valid method to assess behavioural problems (Goodman & Goodman, 2009), caution is necessary when determining causation as self-rating measures are subjective and unverifiable. Future research may incorporate the use of triangulation such as self-report, parental report, as well as teacher report, this would provide a more accurate assessment of adolescent psychopathology.

As with the stressful events study, the quantitative study pertaining to trauma-informed training relied entirely on self-report measures and thus are subject to an array of concerns regarding that form of data collection. Additionally, the ARTIC scale measured attitudes not behaviours, therefore, increases in attitudes related to trauma-informed care cannot be interpreted as behaviour change. Future studies may address this limitation by linking attitudinal change with real-world staff behavioural change. Even though this study qualitatively ascertained that staff had undergone some behavioural change towards their students any future studies should attempt to correlate behavioural change to improvements in student behaviour and academic attainment. Moreover, consulting directly with young people within the school system about any changes made may be essential to identify the

success of any trauma-informed intervention. Eliciting the impressions of students as well as organisational and systemic outcomes may be a useful form of triangulation and an avenue for further investigation.

Several limitations with the qualitative section of the trauma-informed training study should also be considered. The focus group interviewers were also the providers of the Compassionate Schools training workshop delivered at the school. Efforts were made by the researchers to remain neutral and to be aware of the possible tendency for researcher bias (Powell & Single, 1996). Furthermore, the current study was based on a small sample of convenience, teaching staff from the school volunteered to participate in the focus groups expedited by the school principal on behalf of the researchers. It is possible that the participants who volunteered were more motivated to voice their opinions and thoughts and some may have used the focus group to achieve this. Additionally, due to the collective disposition of focus groups, they often inhibit the breadth and depth of material obtained from each participant in comparison to individual interviews (Kidd & Parshall, 2000). They may also be influenced by group dynamics, including outspoken and domineering individuals who may attempt to censor other opinions and command conformity from the rest of the group (Kidd & Parshall, 2000). However, the group moderator addressed potential problematic group dynamics by inviting more silent participants to share their thoughts and experiences. This study was exploratory, and results suggest that the qualitative approach generated valuable data that can be further investigated in future studies.

## **9.6. Final Recommendations**

The earliest chapters of this thesis evidenced the pattern of increased State intervention from the early 1800s to the present day. With the principle of subsidiarity underpinned by the Irish constitution, Bunreacht na hÉireann (1937) leading to a subsidiarity approach to policy in schools, this thesis suggests that low state intervention saw the State decline to intervene in

the use of corporal punishment in schools despite mounting evidence of excessive violations of the Department's guidelines (Rea-Garrett, 2015). However, due to wide-ranging societal, cultural, ideological, and economic transformation occurring in the late 1990s, the State became increasingly more involved in education policy. It was through the Education Act (1998) that the State acknowledged its role and accountability in delivering education for each member of society (Hyland, 2012), indicating a significant move away from the previous subsidiarity approach.

One of the State's more active roles was issuing guidelines towards a positive policy for school behaviour and discipline (Circular M12, 1998). Subsequently, the provision of discipline policies and codes of conduct in schools were established as a legal requirement under Section 23 of the Education Welfare in 2020. However, the recommendations from *The Schools Matter Report* (Martin, 2006) which aimed to inform discourse and policy on the States' approach to student behaviour in schools have been implemented in a limited fashion, has been poorly funded, and disjointed (Rea-Garrett, 2015). It is worth noting that developing and following through with policy recommendations and implementation are not straightforward. Many factors, i.e., financial, political, economic, and ideological influences are often competing for consideration within a small window of opportunity (i.e., changes in Government) and often impede policy change. For example, the collapse of the Celtic Tiger era due to the worldwide recession may have prevented former Governments to invest in addressing the recommendations of Martin's (2006) report. Stating this, it is also worth mentioning that during the peak of the Celtic Tiger era, the Irish State's record of investing in education was considered among the lowest in Europe (OECD, 2010). Thus, the last decade of austerity measures was at least not fully accountable for the current response to student behaviour in schools.

Another issue is related to neo-liberalism principles that has seen decreasing levels of State investment at the same time as requiring increases in productivity and performativity from teaching staff in turn gradually developing a culture of competition within schools (Mooney-Simmie, 2012). The system of education on the island of Ireland and within the UK has begun to exhibit the form of a business model, where the publication of league tables and whole-school evaluations by Government are advertised to offer parents freedom of choice yet the selection of students by individual schools are often based on positive grades and behaviours of prospective students. An example how an environment of performativity can negatively impact upon trauma-impacted students is the practice of suspensions and expulsions for disciplinary matters. Existing students who are experiencing low grades may be seen as lowering the mean of attainment data and may even be expelled from the school for small transgressions. Once expelled, their attainment data is therefore excluded from school records. These practices are the antithesis of being trauma-informed and demonstrate the huge challenge ahead to create the paradigm shift needed to be more inclusive and compassionate towards young people who have experienced stress, adversity, and trauma.

As such, this culture of competition and performativity also leads schools to being less attuned to the needs of their teaching staff as well as being less empathetic and compassionate to the emotional needs of their students (Grummell, Devine, Lynch, 2009). Teachers who participated in focus group interviews in chapter 7 of this thesis lend support to this assertion. Participants indicated that they still must ‘get results’, ‘get GCSE grades’, and ‘keep up percentages.’ Others indicated that the ‘pressures on staff’ were ‘continually, year on year, increasing’ citing budget cuts, and class size increases as reason why their focus was not entirely on the needs of students.

Increasing the culture of competitive performativity which centre on teacher accountability has been linked to low morale, job satisfaction, motivation, self-efficacy, and increased stress

(Bangs & Frost, 2021; Troman, Jeffery, & Ragg, 2007; Morgan, 2009). Additionally, competition between schools and within schools may negatively impact on staff relationships with colleagues and leadership teams in turn leading to an indifference to the emotional needs of their students (Grummell et al., 2009). Because of the gradual increase of neo-liberal policies and the culture of competitive performativity in Irish schools there is now an urgent need for a paradigm shift away from competition to a different ethos, one of collaboration, compassion, creativity, and care (Moonie-Simmie, 2012). However, a paradigm shift of this magnitude would be considered radical in its conceptualisation and would possibly signal vehement political opposition making it difficult to achieve without experiencing considerable resistance.

Although schools are posited as a location where the challenges faced by trauma-impacted youth are especially problematic to a culture of high attainment records and whole-school evaluations as per neo-liberal model, they are also seen as one of the most potent locations for reducing the impact of trauma (Hobbs, Paulsen, & Thomas, 2019). As such, schools are seen as the ideal location for embedding trauma-informed approaches because schools are the place where children and adolescents spend the bulk of their time beyond the home (Costa, 2017). Evidence from the extant literature clearly suggests that only a small number of trauma-impacted youth receive early intervention (Baweja, Santiago, Vona, Pears, Langley, & Kataoka, 2016). Moreover, as many schools are situated in communities with historically high economic deprivation, they may lack the resources needed to intervene, meaning in many instances the only intervention students receive depend on what their school or their teacher can provide (Brunzell et al., 2018). Some progress has been made on this matter with the establishment of the National Behaviour Support Service, however, this service has been limited to date and would need the release of funds to broaden its scope and influence to all schools in need of the programme.

Notwithstanding the lack of resources, schools, specifically teachers, are ideally placed to provide opportunities for students to experience relationships that are both healthy and meaningful. These opportunities comprise of developing trust in adults, building emotional resilience and relational skills through peer and adult interactions, being cared for, and not disregarded, and experiencing safety and predictability while at school (Brunzell et al., 2018; Costa, 2017; Kearns & Hart, 2017; Perry & Daniels, 2016). Through developing relationships that are caring, consistent, and predictable, the educational and life experience of trauma-impacted youth may be profoundly positively influenced, in doing so, wholly justifying reasons to embed trauma-informed approaches in schools (Costa, 2017; Wolpow et al., 2009).

As noted, teachers are ideally placed to provide safe, secure, and predictable relationships with trauma-impacted students (Bloom & Farragher, 2013; Brunzell et al., 2018). Teachers who have a greater understanding of how trauma-impacts on teaching and learning are more competently equipped to meet the specific needs of their trauma-impacted students by maintaining a supportive approach to enrich the classroom environment (Alisic, 2012; Kearns & Hart, 2017; Wolpow et al., 2009). Still, most teachers report that they are unprepared and possess a deficit in knowledge and skills to effectively address and support trauma-impacted students in the classroom (Baweja et al., 2016; Longaretti & Toe, 2017; McKee & Dillenburger, 2009; Phifer & Hull, 2016). These findings were borne out in the focus groups in chapter 7 where participants voiced that they ‘don’t have the skills’ and would ‘need help’. To counter this deficit, teachers need to receive training in effective strategies for classroom management (Brunzell et al., 2018), and they merit to be adequately equipped to respond to trauma-impacted students (Blitz et al., 2018). Therefore, it is recommended that pre-service teacher training, and ongoing professional development in the Republic of Ireland, N. Ireland, and the U.K. provides trainees and teachers with a comprehensive understanding of how trauma impacts on students and their ability to learn in the classroom, as well as developing

skills that supports them to address the needs of their students based on empathy, compassion, and mutual respect (Hobbs et al., 2019).

However, one of the biggest obstacles to delivering this material within initial teacher education (ITE) programmes lies with State accreditation requirements (Hobbs et al., 2019). With current ITE curricular at full capacity, attempting to insert additional learning content may prove to be a significant challenge for teacher training colleges. Due to legal mandates in reporting child abuse, trainee teachers do receive some basic training in this area, however, this training is specifically focused on identifying and reporting physical and sexual abuse and is not linked to or focused on trauma-informed approaches to support young vulnerable students who have experienced various forms of trauma (Kearns & Hart, 2017). Thus, with the current ITE curriculum already overflowing and State accreditation requirements associated with mandatory reporting only, omitting the trauma-informed curriculum from ITE programmes may be considered the norm rather than the exception.

Notwithstanding, a few studies have provided examples of trauma-informed curriculum being the exception rather than the rule within ITE programmes (Kearns & Hart, 2017; Foreman & Bates, 2021; Walsh, Laskey, McInnes, Farrell, Mathews, & Briggs, 2011). The trauma-informed curriculum within these studies were delivered as either discrete content or integrated across a programme. Both approaches produce benefits. Discrete content affords an opportunity to focus on detailed subject matter, whereas, the integrated delivery of content affords opportunities for integrating theoretical knowledge around attachment and related topics, as well as scaffolding material, adding depth to understanding (Kearns & Hart, 2017). While the data on the effectiveness of these programmes was in short supply, the data that was available demonstrated that trainee teachers appreciated curriculum that supported practice-based learning (Walsh et al., 2011). Trainee teachers also indicated that these programmes assisted their knowledge, awareness, and self-efficacy in working with trauma-

impacted students (Foreman & Bates, 2021), as well as their growing confidence to effectively respond to classroom disruption (Walsh et al., 2011). Kearns and Hart (2017) suggested that those trainee teachers who participated in their integrated trauma-informed pilot programme advanced a fuller understanding of the significance of attachment in their role as teachers and reported improved confidence in their ability to support students to develop healthy self-concepts of themselves as well as a stronger appreciation for their own self-care (Kearns & Hart, 2017). Within the context of N.I., McKee and Dillenburger (2009) assessed the training needs of student teachers. These authors found considerable gaps in knowledge in relation to child abuse and neglect statistics, and recognising and reporting policies and procedures. Their study lends weight to the contention that there is an urgent need for the inclusion of preservice child protection and trauma-informed training for those enrolled in initial teacher education studies.

As a final point in relation to the paradigm shift needed in schools, using a trauma-focused lens when managing difficult behaviours means shifting the question from “what is wrong with you?” to “what happened to you?” (Winfrey & Perry, 2021; Wolpow et al., 2009). This paradigm shift in attitude may allow students to process their own experiences in healthy, non-judgemental ways. However, while this move away from “what’s wrong with you” to “what has happened to you” is welcome, conceivably, this modernistic phrase still may indicate that something must be wrong with the individual (Harper & Cromby, 2020). In turn, the individual may still consciously or unconsciously discern that they either have or are a problem. Thus, at least feasibly, concreting ideas around stress, adversity, and trauma firmly within a deficit approach. Going forward, to further the basics of the trauma lexicon, consideration must be given to using the phrase “what’s happening with you”, or better still, “it’s not what’s wrong with you but what’s strong with you that’s most important”. This is more in line with a strength-based approach and may reduce some of the negative effects of

stigma while promoting stress adapted skills such as quickly switching tasks, and working in uncertain and stressful conditions (Mittal, Griskevicius, Simpson, Sung, & Young, 2015).

These trauma-impacted students may be better equipped to train in certain professions and might make excellent ER doctors, paramedics, police etc.

Overall, this thesis contributed to the collective understanding of what it means to be a trauma-informed school. However, the approach of delivering interdisciplinary knowledge employing outside specialists to teach school staff on a one off or intermittent basis is one that is deemed unsustainable. With rates of teacher turnover increasing due to burnout (Aloe et al., 2014; Fazel et al., 2014), schools are at risk of hiring new teachers that have little to no training in trauma-informed practice. Therefore, it is recommended that school administrators at state level advocate for teacher preservice programmes to comprise of well-grounded, and methodologically rigorous research and practice that compels changes in teaching practice towards a trauma-informed approach. This approach would guide teachers to recognise their unique role and accept their responsibilities to improve the outcomes of trauma-impacted youth.

## **9.7. Future Research Considerations**

Additional research into the impact of various childhood adversities on adolescent psychopathology would be advantageous, however, any further studies should also consider strengths and protective factors such as individual, family, and community influences which may ameliorate mental health problems by bolstering resilience (Powell, Rahm-Knigge, & Conner, 2021). The findings reported in this thesis also provide support for additional studies utilising latent class analysis to determine if the findings considered here (i.e., no risk, at risk, and immediate risk classes) hold true for other regions of Northern Ireland as well as the Republic of Ireland. Findings such as these can inform a more holistic approach to intervention and prevention strategies that are more inclusive and take account of individual,

family, and community resilience factors as well as developing a framework to realign organisational culture, policies, and practices to be aware of and sensitive to the desire to help alleviate pain and foster healing (Webb et al., 2020).

Other findings this thesis supported pertains to adequate funding of any whole-school trauma-informed intervention. Funding needs to be available to scale up the intervention programme to allow for multiple trainings across many school districts as well as the ability to conduct research longitudinally. This research would include measures of staff, student, and parental well-being in a pre-post design that would also take account of other markers of success such as absentee reports, student's grades, disciplinary actions, perceived school safety and changes in teacher behaviours in classrooms indicated by students, as well as levels of parental participation in school and their attitudes towards trauma-informed care. More robust finding with studies that have greater number of participants than the pilot in this thesis can assist school advocates by strengthening their argument for teacher colleges to adapt to the new paradigm of being trauma-informed and implement modules that induce more favourable attitudes to their students along with learning strategies to practice self- and community-care.

Further, when attempting to re-run the study for the audio-guided mindfulness study it may be possible to make some amendments to the study protocol to include measures associated with neurobiological functioning (immune and endocrine biomarkers). The consequences of stress, adversity, and trauma are complex and are assumed to stem from changes in neurobiological processes implicated in producing and regulating emotional responses. These processes involve endocrine, immune, epigenetic, and brain circuitry (Bremner, 2003; Jaffee & Christian, 2014; Klengel et al., 2013). Toxic stress has been shown to disrupt neurobiological functioning such as the hypothalamic-pituitary-adrenal (HPA) axis, which governs the stress response (Fernando et al., 2012) as well as inflammatory markers (Slopen,

Kubzansky, McLaughlin, & Koenen, 2013) and epigenetic changes (Silberman, Acosta, & Zubilete, 2016). Fortunately, due to childhood and adolescence being a period of development marked by brain plasticity this provides an opportunity to reconfigure architectural brain systems that are subservient to stress responses and to normalise these systems by psychological intervention (Fournier & Price, 2014). Interventions such as Cognitive Behaviour Therapy (CBT), Trauma-Focused CBT, Child-Parent Psychotherapy, and Emotional Regulation interventions have demonstrated some efficacy in reducing symptoms of depression, anxiety, and post-traumatic stress disorder (PTSD) in trauma-impacted youth (Kirlic, Cohen, & Singh, 2020). However, it is uncertain whether, and to what extent, interventions influence disrupted neurobiological architecture involved in the response to and the regulation of toxic stress (Cohen et al., 2021).

Psychological interventions that increase emotional regulation and awareness seem well equipped to target neurobiological systems involved in responses to toxic stress, therefore, may prove advantageous for trauma-impacted youth in ameliorating the negative effects of stress and increasing resilience (Zenner, Herrnleben-Kurz, & Walach, 2014). However, few schools on the island of Ireland are implementing mindfulness practice in their classrooms, where it is implemented it is adhoc with limited resources and minimal teacher training. The advantages of audio-guided mindfulness therefore is that it is plug and play, limits resources placed on the teacher, and ensures fidelity of delivery. At the time of writing, there is limited information available to determine whether mindfulness can ameliorate the negative adverse neurobiological effects of stress, adversity, and trauma (Cohen et al., 2021). Particularly, there are no studies conducted utilising audio-guided mindfulness intervention with adolescents that examines neurobiological functioning. This study would aim to assess the feasibility of conducting audio-guided mindfulness in the classroom and may provide some

preliminary evidence for efficacy of the potential of mindfulness on immune and endocrine markers along with measures of emotional regulation, stress, rumination, and resilience.

### **9.8. Conclusion**

The first empirical study discussed in this thesis attempted a conceptual expansion of the ACE checklist using the stressful events checklist as well as exploring associations between stressful events and adolescent psychopathology. To our present knowledge, no such study has been undertaken in this way using self-rated adolescent responses. Findings from this study demonstrated that adolescents at most risk of psychopathology had the highest probability of experiencing interpersonal relationship issues, family dysfunction and illness, loss, and having close friends experiencing psychological difficulties. Consequently, the study demonstrated that the original ten ACE categories do not capture the myriad and complexity of childhood adversity and supports the inclusion of peer relationships/difficulties along with poverty to the ACE checklist as these were shown to be strong predictors of psychopathology. Additionally, utilising latent class analysis this study revealed three classes consisting of a low-risk, at-risk, and an immediate-risk of adolescent psychopathology groupings. Instead of only focusing resources on the immediate-risk group, this thesis also supports more broader intervention and prevention programmes targeting whole-school mental health. Moreover, growing up in an economically disadvantaged area had social and emotional implications for adolescent development comprising of internalising problems and peer problems. Any effort to improve adolescent mental health should spotlight socioeconomic inequalities and advocate for increased social supports that insulate families from significant adversities along with the early identification, and the implementation of research-based prevention and intervention strategies to combat toxic stress.

Acknowledging the pervasive and deleterious impact of stress and trauma on adolescent mental health, the author realised that there was an urgent need to establish a sustainable,

cost-effective, trauma-informed approach in schools to advance and enhance cultures of safety, support, and healing, permitting all students every opportunity to experience good mental health and academic success. This led to the chapter on whole-school, trauma-informed training for school personnel. This study was the first empirical study of its kind on the island of Ireland as well as being the first whole-school trauma-informed professional development training workshop that utilised more robust research methods by way of a control group. The study contributes to the small yet growing evidence-based trauma-informed schools' literature. The study was designed to determine attitudinal and well-being change of school personnel following participation in a whole-school trauma-informed training workshop. The content of the workshop and booster session material provided the framework for the development of a more compassionate, supportive, safe classroom environment as well as improving upon teacher well-being.

In addition, the training provided the school with links to join more effectively with outside supportive agencies (CAMHS) and to engage with the social work gateway and family intervention services along with agencies that support families/parents who struggle with mental health and substance abuse. This study demonstrated that with minimum instruction on the dynamics of trauma, school personnel became more trauma-informed leading to more favourable attitudes towards trauma-impacted students. The study also demonstrated that by increasing staff self-efficacy in working with these young people staff were less likely to experience burnout. The findings from this study support the ongoing evaluation of the Compassionate Schools (Wolpow et al., 2009) paradigm as a potential framework for undoing the negative impact of ACEs, trauma, and burnout in schools and adds to the small yet growing body of research in promoting more trauma-informed attitudes and improving the mental well-being of school personnel.

Unfortunately, due to covid-19 restrictions, the final piece of this thesis relating to the mindfulness intervention directed at adolescents, their parents, and school staff was severely inhibited. This section of the thesis would have crowned the body of work undertaken to provide prevention and intervention strategies to support vulnerable young people, their parents/caregivers, and to aid in the well-being of school staff. Nevertheless, this thesis still suggests that effective strategies to tackle toxic stress in young people should be an essential component of the school curriculum as these young people can gain positive coping skills to counter and prevent related psychopathology. Although this thesis was not able to demonstrate the efficacy of the mindfulness intervention, the research literature demonstrates that increasing executive function capacity during the period of adolescence can be an overwhelmingly beneficial strategy (Diamond, 2013).

Finally, since schools are progressively focused on student and teacher well-being and the growth of qualities such as empathy, compassion, creativity, and pro-social behaviours, this thesis makes a strong argument for the implementation of whole-school trauma-informed training for school personnel as well as audio-guided mindfulness as a universal prevention programme within the school setting (Weare, 2015). Indeed, taking mental health interventions to students rather than taking students to interventions seems like a much more efficient approach to ameliorating adolescent psychopathology (Semple & Burke, 2019).

## References

- Acton, R., & Glasgow, P. (2015). Teacher wellbeing in neoliberal contexts: A review of the literature. *Australian Journal of Teacher Education*, 40(8), 99-114.  
<http://dx.doi.org/10.14221/ajte.2015v40n8.6>
- Adera, B. A., & Bullock, L. M. (2010). Job stressors and teacher job satisfaction in programs serving students with emotional and behavioral disorders. *Emotional and Behavioural Difficulties*, 15(1), 5-14. <https://doi.org/10.1080/13632750903512365>
- Agarwal, A., & Dixit, V. (2017). The role of meditation on mindful awareness and life satisfaction of adolescents. *Journal of Psychosocial Research*, 12(1), 59.
- Agirkan, M., & Ergene, T. (2021). What do we know about social and emotional learning? A review and bibliometric analysis of international and national studies. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*. <https://doi.org/10.17556/erziefd.822759>
- Ahmadi, I., Said, H., Awang, Z., & Yasin, M. A. M. Z. (2014). Effect of self-efficacy on the relationship between corporal punishment and school dropout. *Rev. Eur. Stud.*, 6, 196.  
<http://dx.doi.org/10.5539/res.v6n1p196>
- Akaike, H. (1987). Factor analysis and AIC. In *Selected Papers of Hirotugu Akaike* (pp. 371-386). Springer, New York, NY. [https://doi.org/10.1007/978-1-4612-1694-0\\_29](https://doi.org/10.1007/978-1-4612-1694-0_29)
- Aldao, A., Jazaieri, H., Goldin, P. R., & Gross, J. J. (2014). Adaptive and maladaptive emotion regulation strategies: Interactive effects during CBT for social anxiety disorder. *Journal of Anxiety Disorders*, 28(4), 382-389. <https://doi.org/10.1016/j.janxdis.2014.03.005>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30(2), 217-237. <https://doi.org/10.1016/j.cpr.2009.11.004>

- Alsic, E. (2012). Teachers' perspectives on providing support to children after trauma: A qualitative study. *School Psychology Quarterly*, 27(1), 51. <https://doi.org/10.1037/a0028590>
- Allgaier, A. K., Pietsch, K., Frühe, B., Sigl-Glöckner, J., & Schulte-Körne, G. (2012). Screening for depression in adolescents: validity of the patient health questionnaire in pediatric care. *Depression and Anxiety*, 29(10), 906-913. <https://doi.org/10.1002/da.21971>
- Aloe, A. M., Amo, L. C., & Shanahan, M. E. (2014). Classroom management self-efficacy and burnout: A multivariate meta-analysis. *Educational Psychology Review*, 26(1), 101-126. <https://doi.org/10.1007/s10648-013-9244-0>
- American Psychiatric Association, A. (1980). *Diagnostic and statistical manual of mental disorders* (Vol. 3). Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)*. American Psychiatric Pub.
- Amso, D., & Scerif, G. (2015). The attentive brain: insights from developmental cognitive neuroscience. *Nature Reviews Neuroscience*, 16(10), 606-619. <https://doi.org/10.1038/nrn4025>
- Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. H., Perry, B. D., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience*, 256(3), 174-186. <https://doi.org/10.1007/s00406-005-0624-4>
- Anda, R. F., Porter, L. E., & Brown, D. W. (2020). Inside the adverse childhood experience score: Strengths, limitations, and misapplications. *American Journal of Preventive Medicine*.

Andersen, S. L., & Teicher, M. H. (2008). Stress, sensitive periods and maturational events in adolescent depression. *Trends in Neurosciences*, 31(4), 183-191.

<https://doi.org/10.1016/j.amepre.2020.01.009>

Anderson-Ketchmark, C., & Alvarez, M. E. (2010). The heart of learning and teaching: An online resource. *Children and Schools*, 32(3), 190-191.

Andrews, B., Brewin, C. R., Rose, S., & Kirk, M. (2000). Predicting PTSD symptoms in victims of violent crime: the role of shame, anger, and childhood abuse. *Journal of Abnormal Psychology*, 109(1), 69. <https://doi.org/10.1037/0021-843X.109.1.69>

Ardoin, S. P., Witt, J. C., Connell, J. E., & Koenig, J. L. (2005). Application of a three-tiered response to intervention model for instructional planning, decision making, and the identification of children in need of services. *Journal of Psychoeducational Assessment*, 23(4), 362-380. <https://doi.org/10.1177/F073428290502300405>

Armour, C., Elkliit, A., & Christoffersen, M. N. (2014). A latent class analysis of childhood maltreatment: Identifying abuse typologies. *Journal of Loss and Trauma*, 19(1), 23-39.

<https://doi.org/10.1080/15325024.2012.734205>

Asmal, K. (1999). *Call to Action! Mobilising Citizens to Build a South African Education and Training System for the 21st Century*. Department of Education.

Asparouhov, T., & Muthén, B. (2013). Auxiliary variables in mixture modeling: 3-step approaches using Mplus. *Mplus Web Notes*: No. 15. Retrievable from [www.statmodel.com](http://www.statmodel.com).

Asparouhov, T., & Muthén, B. (2014). Auxiliary variables in mixture modeling: Using the BCH method in Mplus to estimate a distal outcome model and an arbitrary secondary model. *Mplus Web Notes*, 21(2), 1-22.

Association of Secondary School Teachers of Ireland. (2004). *Survey on Discipline*. [Online]. Available at: [www.asti.ie/pdfs/policy%20documents/disciplinesurveycomm.pdf](http://www.asti.ie/pdfs/policy%20documents/disciplinesurveycomm.pdf) [Accessed on 24 July 2021].

Association of Secondary School Teachers of Ireland. (2013). *Schools Losing Teachers, Dropping Subjects, Despite Increased Student Numbers*. [Online]. Available at: [http://www.asti.ie/index.php?id=38&no\\_cache=1&tx\\_ttnews%5bt\\_tnews%5d=1522](http://www.asti.ie/index.php?id=38&no_cache=1&tx_ttnews%5bt_tnews%5d=1522) [Accessed on 23 July 2021].

Augusti, E. M., & Melinder, A. (2013). Maltreatment is associated with specific impairments in executive functions: A pilot study. *Journal of Traumatic Stress*, 26(6), 780-783.  
<https://doi.org/10.1002/jts.21860>

Avery, J., Morris, H., Jones, A., Skouteris, H., & Deppeler, J. (2021). Australian Educators' Perceptions and Attitudes Towards a Trauma-Responsive School-Wide Approach. *Journal of Child & Adolescent Trauma*, 1-15. <https://doi.org/10.1007/s40653-021-00394-6>

Axelsen, K. T. (2017). Developing Compassionate Schools and Trauma-Informed School-Based Services: An Expanded Needs Assessment and Preliminary Pilot Study. Rutgers The State University of New Jersey, Graduate School of Applied and Professional Psychology.

Babcock, M. K., & Sabini, J. (1990). On differentiating embarrassment from shame. *European Journal of Social Psychology*, 20(2), 151-169.  
<https://doi.org/10.1002/ejsp.2420200206>

Baginsky, M. (2007). Schools, social services, and safeguarding children: past practice and future challenges. *London: National Society for the Prevention of Cruelty to Children [NSPCC]*.

- Baker, C. N., Brown, S. M., Wilcox, P. D., Overstreet, S., & Arora, P. (2016). Development and psychometric evaluation of the attitudes related to trauma-informed care (ARTIC) scale. *School Mental Health*, 8(1), 61-76. <https://doi.org/10.1007/s12310-015-9161-0>
- Bakk, Z., & Vermunt, J. K. (2016). Robustness of stepwise latent class modeling with continuous distal outcomes. *Structural Equation Modeling: A Multidisciplinary Journal*, 23(1), 20-31. <https://doi.org/10.1080/10705511.2014.955104>
- Bakosh, L. S., Mortlock, J. M. T., Querstret, D., & Morison, L. (2018). Audio-guided mindfulness training in schools and its effect on academic attainment: Contributing to theory and practice. *Learning and Instruction*, 58, 34-41.  
<https://doi.org/10.1016/j.learninstruc.2018.04.012>
- Bakosh, L. S., Snow, R. M., Tobias, J. M., Houlihan, J. L., & Barbosa-Leiker, C. (2016). Maximizing mindful learning: Mindful awareness intervention improves elementary school students' quarterly grades. *Mindfulness*, 7(1), 59-67. <https://doi.org/10.1007/s12671-015-0387-6>
- Ball, S. J. (2003). The teacher's soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215-228. <https://doi.org/10.1080/0268093022000043065>
- Ball, S. J. (2018). Commercialising education: profiting from reform!. *Journal of Education Policy*, 33:5, 587-589. <https://doi.org/10.1080/02680939.2018.1467599>
- Ballard, E. D., Van Eck, K., Musci, R. J., Hart, S. R., Storr, C. L., Breslau, N., & Wilcox, H. C. (2015). Latent classes of childhood trauma exposure predict the development of behavioural health outcomes in adolescence and young adulthood. *Psychological Medicine*, 45(15), 3305-3316. <https://doi.org/10.1017/S0033291715001300>

Bangs, J., & Frost, D. (2012). Teacher self-efficacy, voice, and leadership: Towards a policy framework for Education International. *Education International Research Institute, Cambridge, UK.*

Barboza, G. E. (2018). Latent classes and cumulative impacts of adverse childhood experiences. *Child maltreatment, 23*(2), 111-125.

<https://doi.org/10.1177/F1077559517736628>

Barnes, J. E., Noll, J. G., Putnam, F. W., & Trickett, P. K. (2009). Sexual and physical revictimization among victims of severe childhood sexual abuse. *Child Abuse and Neglect, 33*(7), 412-420. <https://doi.org/10.1016/j.chabu.2008.09.013>

Barrera, M., Calderón, L., & Bell, V. (2013). The cognitive impact of sexual abuse and PTSD in children: a neuropsychological study. *Journal of Child Sexual Abuse, 22*(6), 625-638.

<https://doi.org/10.1080/10538712.2013.811141>

Barron, I., Mitchell, D., & Yule, W. (2017). Pilot study of a group-based psychosocial trauma recovery program in secure accommodation in Scotland. *Journal of Family Violence, 32*(6), 595-606. <https://doi.org/10.1007/s10896-017-9921-8>

Barta, J. (2018). The Relationship Between Adverse Childhood Experiences and Executive Functions in High School Aged Students. PCOM Psychology Dissertations. 446. Retrieved from [https://digitalcommons.pcom.edu/psychology\\_dissertations/446](https://digitalcommons.pcom.edu/psychology_dissertations/446)

Barton, E. R., Newbury, A., & Roberts, D. J. (2018). *An Evaluation of the Adverse Childhood Experience (ACE)-Informed Whole School Approach*. Public Health Wales.

Baweja, S., Santiago, C. D., Vona, P., Pears, G., Langley, A., & Kataoka, S. (2016). Improving implementation of a school-based program for traumatized students: Identifying

factors that promote teacher support and collaboration. *School Mental Health*, 8(1), 120-131.

<https://doi.org/10.1007/s12310-015-9170-z>

Beck, C. T. (2011). Secondary traumatic stress in nurses: A systematic review. *Archives of Psychiatric Nursing*, 25(1), 1-10. <https://doi.org/10.1016/j.apnu.2010.05.005>

Becker, A., Rothenberger, A., & Sohn, A. (2015). Six years ahead: a longitudinal analysis regarding course and predictive value of the Strengths and Difficulties Questionnaire (SDQ) in children and adolescents. *European Child & Adolescent Psychiatry*, 24(6), 715-725.

<https://doi.org/10.1007/s00787-014-0640-x>

Belfer, M. L. (2008). Child and adolescent mental disorders: the magnitude of the problem across the globe. *Journal of Child Psychology and Psychiatry*, 49(3), 226-236.

<https://doi.org/10.1111/j.1469-7610.2007.01855.x>

Bell, C., Scarlett, M. 2015. Health Survey Northern Ireland: First Results 2014/15.

Department of Health, Social Services and Public Safety: Belfast. Retrieved from <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/hsni-first-results-14-15.pdf> [Accessed on: 10/08/21].

Bellis, M. A., Hardcastle, K., Ford, K., Hughes, K., Ashton, K., Quigg, Z., & Butler, N. (2017). Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences-a retrospective study on adult health-harming behaviours and mental well-being. *BMC Psychiatry*, 17(1), 1-12.

<https://doi.org/10.1186/s12888-017-1260-z>

Bellis, M. A., Hughes, K., Ford, K., Hardcastle, K. A., Sharp, C. A., Wood, S., & Davies, A. (2018). Adverse childhood experiences and sources of childhood resilience: a retrospective study of their combined relationships with child health and educational attendance. *BMC Public Health*, 18(1), 792.

- Bellis, M. A., Hughes, K., Leckenby, N., Hardcastle, K. A., Perkins, C., & Lowey, H. (2014a). Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. *Journal of Public Health*, 37(3), 445-454. <https://doi.org/10.1093/pubmed/fdu065>
- Bellis, M. A., Hughes, K., Leckenby, N., Perkins, C., & Lowey, H. (2014b). National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviours in England. *BMC Medicine*, 12(1), 72. <https://doi.org/10.1186/1741-7015-12-72>
- Benjet, C., Borges, G., & Medina-Mora, M. E. (2010). Chronic childhood adversity and onset of psychopathology during three life stages: childhood, adolescence and adulthood. *Journal of Psychiatric Research*, 44(11), 732-740. <https://doi.org/10.1016/j.jpsychires.2010.01.004>
- Berens, A. E., Jensen, S. K., & Nelson, C. A. (2017). Biological embedding of childhood adversity: from physiological mechanisms to clinical implications. *BMC Medicine*, 15(1), 1-12. <https://doi.org/10.1186/s12916-017-0895-4>
- Berger, L. M., Paxson, C., & Waldfogel, J. (2009). Income and child development. *Children and Youth Services Review*, 31(9), 978-989. <https://doi.org/10.1016/j.childyouth.2009.04.013>
- Berger, R., & Gelkopf, M. (2011). An intervention for reducing secondary traumatization and improving professional self-efficacy in well baby clinic nurses following war and terror: A random control group trial. *International Journal of Nursing Studies*, 48(5), 601-610. <https://doi.org/10.1016/j.ijnurstu.2010.09.007>
- Berger, R., Abu-Raiya, H., & Benatov, J. (2016). Reducing primary and secondary traumatic stress symptoms among educators by training them to deliver a resiliency program (ERASE-Stress) following the Christchurch earthquake in New Zealand. *American Journal of Orthopsychiatry*, 86(2), 236. <https://doi.org/10.1037/ort0000153>

- Berking, M., & Wupperman, P. (2012). Emotion regulation and mental health: recent findings, current challenges, and future directions. *Current Opinion in Psychiatry*, 25(2), 128-134. <https://doi.org/10.1097/YCO.0b013e3283503669>
- Bessel, A., & Kolk, B. A. (2005). Developmental trauma disorder. *Psychiatric Annals*, 35(5), 401-408.
- Bethell, C., Gombojav, N., Solloway, M., & Wissow, L. (2016). Adverse childhood experiences, resilience and mindfulness-based approaches: common denominator issues for children with emotional, mental, or behavioural problems. *Child and Adolescent Psychiatric Clinics*, 25(2), 139-156. <https://doi.org/10.1016/j.chc.2015.12.001>
- Betts, J., & Thompson, J. (2017). Mental Health in Northern Ireland: Overview, Strategies, Policies, Care Pathways, CAMHS and Barriers to Accessing Services.
- Bierhaus, A., Wolf, J., Andrassy, M., Rohleder, N., Humpert, P. M., Petrov, D., & Nawroth, P. P. (2003). A mechanism converting psychosocial stress into mononuclear cell activation. *Proceedings of the National Academy of Sciences*, 100(4), 1920-1925.  
<https://doi.org/10.1073/pnas.0438019100>
- Biesta, G. J. (2012). Giving teaching back to education: Responding to the disappearance of the teacher. *Phenomenology & Practice*, 6(2), 35-49.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., & Devins, G. (2004). Mindfulness: a proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230. <https://doi.org/10.1093/clipsy.bph077>
- Black, JE, Jones, TA, Nelson, CA, & Greenough, WT (1998). Neuronal plasticity and the developing brain. In Alessi NE, Coyle JT, Harrison SI, & Eth S. (Eds.), *Handbook of Child*

*and Adolescent Psychiatry. Vol 6. Basic Psychiatric Science and Treatment* (pp. 31–53). New York: John Wiley & Sons.

Blakemore, S. J. (2012). Imaging brain development: the adolescent brain. *Neuroimage*, 61(2), 397-406. <https://doi.org/10.1016/j.neuroimage.2011.11.080>

Blakemore, S. J., & Mills, K. L. (2014). Is adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology*, 65, 187-207. <https://doi.org/10.1146/annurev-psych-010213-115202>

Blaustein, M. E., & Kinniburgh, K. M. (2017). Attachment, self-regulation, and competency (ARC). In *Evidence-based treatments for trauma related disorders in children and adolescents* (pp. 299-319). Springer, Cham. [https://doi.org/10.1007/978-3-319-46138-0\\_14](https://doi.org/10.1007/978-3-319-46138-0_14)

Blitz, L. V., Anderson, E. M., & Saastamoinen, M. (2016). Assessing perceptions of culture and trauma in an elementary school: Informing a model for culturally responsive trauma-informed schools. *The Urban Review*, 48(4), 520-542. <https://doi.org/10.1007/s11256-016-0366-9>

Blood, P., & Thorsborne, M. (2005, March). The challenge of culture change: Embedding restorative practice in schools. In *Sixth International Conference on Conferencing, Circles and other Restorative Practices: Building a Global Alliance for Restorative Practices and Family Empowerment, Sydney, Australia* (pp. 3-5).

Bloom, S. L. (2016). Encountering trauma, countertrauma, and countering trauma. In *Trauma and countertrauma, resilience and counterresilience* (pp. 57-74). Routledge.

Bloom, S. L., & Farragher, B. (2013). *Restoring sanctuary: A new operating system for trauma-informed systems of care*. Oxford University Press.

- Bluth, K., Roberson, P. N., & Gaylord, S. A. (2015). A pilot study of a mindfulness intervention for adolescents and the potential role of self-compassion in reducing stress. *Explore, 11*(4), 292-295. <https://doi.org/10.1016/j.explore.2015.04.005>
- Bolger, N., DeLongis, A., Kessler, R. C., & Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family*, 175-183. <https://doi.org/10.2307/352378>
- Booth, P. B., & Jernberg, A. M. (2009). *Theraplay: Helping parents and children build better relationships through attachment-based play*. John Wiley & Sons.
- Borelli, J. L., & Prinstein, M. J. (2006). Reciprocal, longitudinal associations among adolescents' negative feedback-seeking, depressive symptoms, and peer relations. *Journal of Abnormal Child Psychology, 34*(2), 154-164. <https://doi.org/10.1007/s10802-005-9010-y>
- Boscarino, J. A., Figley, C. R., & Adams, R. E. (2004). Compassion fatigue following the September 11 terrorist attacks: A study of secondary trauma among New York City social workers. *International Journal of Emergency Mental Health, 6*(2), 57.
- Bowlby, J. (1980). Attachment and loss: Volume III: Loss, sadness and depression. In *Attachment and Loss: Volume III: Loss, Sadness and Depression* (pp. 1-462). London: The Hogarth press and the institute of psychoanalysis.
- Boyle, B., Lamprianou, I., & Boyle, T. (2005). A longitudinal study of teacher change: What makes professional development effective? Report of the second year of the study. *School Effectiveness and School Improvement, 16*(1), 1-27. <https://doi.org/10.1080/09243450500114819>
- Bradshaw, C. P., Goldweber, A., Fishbein, D., & Greenberg, M. T. (2012). Infusing developmental neuroscience into school-based preventive interventions: Implications and

future directions. *Journal of Adolescent Health, 51*(2), S41-S47.

<https://doi.org/10.1016/j.jadohealth.2012.04.020>

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>

Bremner, J. D. (2003). Long-term effects of childhood abuse on brain and neurobiology.

*Child and Adolescent Psychiatric Clinics, 12*(2), 271-292. [https://doi.org/10.1016/S1056-4993\(02\)00098-6](https://doi.org/10.1016/S1056-4993(02)00098-6)

Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68*(5), 748. <https://doi.org/10.1037/0022-006X.68.5.748>

Bridge, J. A., Goldstein, T. R., & Brent, D. A. (2006). Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry, 47*(3-4), 372-394.

<https://doi.org/10.1111/j.1469-7610.2006.01615.x>

Brockie, T. N., Dana-Sacco, G., Wallen, G. R., Wilcox, H. C., & Campbell, J. C. (2015). The relationship of adverse childhood experiences to PTSD, depression, poly-drug use and suicide attempt in reservation-based Native American adolescents and young adults.

*American Journal of Community Psychology, 55*(3-4), 411–421.

<https://doi.org/10.1007/s10464-015-9721-3>

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development.

*American Psychologist, 32*(7), 513. <https://doi.org/10.1037/0003-066X.32.7.513>

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723.

Bronfenbrenner, U. (1992). *Ecological systems theory*. Jessica Kingsley Publishers.

- Bronfenbrenner, U. (1994). Ecological models of human development. *Readings on the Development of Children*, 2(1), 37-43.
- Brown, S. M., Baker, C. N., & Wilcox, P. (2012). Risking connection trauma training: A pathway toward trauma-informed care in child congregate care settings. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(5), 507. <https://doi.org/10.1037/a0025269>
- Brown, S. M., Rienks, S., McCrae, J. S., & Watamura, S. E. (2019). The co-occurrence of adverse childhood experiences among children investigated for child maltreatment: A latent class analysis. *Child Abuse and Neglect*, 87, 18-27.  
<https://doi.org/10.1016/j.chabu.2017.11.010>
- Brunzell, T., Stokes, H., & Waters, L. (2016). Trauma-informed positive education: Using positive psychology to strengthen vulnerable students. *Contemporary School Psychology*, 20(1), 63-83. <https://doi.org/10.1007/s40688-015-0070-x>
- Brunzell, T., Stokes, H., & Waters, L. (2018). Why Do You Work with Struggling Students? Teacher Perceptions of Meaningful Work in Trauma-Impacted Classrooms. *Australian Journal of Teacher Education*, 43(2), 116-142. <https://doi.org/10.14221/ajte.2018v43n2.7>
- Bryant, F. B., & Satorra, A. (2012). Principles and practice of scaled difference chi-square testing. *Structural Equation Modeling: A Multidisciplinary Journal*, 19(3), 372-398.  
<https://doi.org/10.1080/10705511.2012.687671>
- Buachalla, S. Ó. (1988). *Education Policy in twentieth Century Ireland*. Dublin: Wolfhound Press (IE).
- Bucci, M., Marques, S. S., Oh, D., & Harris, N. B. (2016). Toxic stress in children and adolescents. *Advances in Pediatrics*, 63(1), 403-428.  
<https://doi.org/10.1016/j.yapd.2016.04.002>

Bunting, L., McCartan, C., Davidson, G., Grant, A., McBride, O., Mulholland, C., & Shevlin, M. (2020). The Mental Health of Children and Parents in Northern Ireland: Results of the Youth Wellbeing Prevalence Survey.

<https://www.qub.ac.uk/home/Filestore/Filetoupload,996902,en.pdf>

Bunting, L., Montgomery, L., Mooney, S., MacDonald, M., Coulter, S., Hayes, D., Davidson, G., & Forbes, T. (2019). Developing trauma informed care in Northern Ireland: The education system. Retrieved from: <https://pureadmin.qub.ac.uk>

Burdzovic Andreas, J., & Brunborg, G. S. (2017). Depressive symptomatology among Norwegian adolescent boys and girls: the patient health Questionnaire-9 (PHQ-9) psychometric properties and correlates. *Frontiers in Psychology*, 8, 887.

<https://doi.org/10.3389/fpsyg.2017.00887>

Burke, J., & Minton, S. J. (2019). Well-being in post-primary schools in Ireland: the assessment and contribution of character strengths. *Irish Educational Studies*, 38(2), 177-192.

<https://doi.org/10.1080/03323315.2018.1512887>

Burke, N. J., Hellman, J. L., Scott, B. G., Weems, C. F., & Carrion, V. G. (2011). The impact of adverse childhood experiences on an urban paediatric population. *Child Abuse and Neglect*, 35(6), 408-413. <https://doi.org/10.1016/j.chab.2011.02.006>

Burns, K., & McGregor, C. (2019). Child protection and welfare systems in Ireland: Continuities and discontinuities of the present. *National Systems of Child Protection* (pp. 115-138). Springer, Cham. [https://doi.org/10.1007/978-3-319-93348-1\\_7](https://doi.org/10.1007/978-3-319-93348-1_7)

Burwell, R. A., & Shirk, S. R. (2007). Subtypes of rumination in adolescence: Associations between brooding, reflection, depressive symptoms, and coping. *Journal of Clinical Child and Adolescent Psychology*, 36(1), 56-65. <https://doi.org/10.1080/15374410709336568>

- Busso, D. S., McLaughlin, K. A., & Sheridan, M. A. (2017). Dimensions of adversity, physiological reactivity, and externalizing psychopathology in adolescence: Deprivation and threat. *Psychosomatic Medicine*, 79(2), 162.  
<https://doi.org/10.1097/FPSY.0000000000000369>
- Canale, N., Scacchi, L., & Griffiths, M. D. (2016). Adolescent gambling and impulsivity: Does employment during high school moderate the association? *Addictive Behaviors*, 60, 37-41. <https://doi.org/10.1016/j.addbeh.2016.04.001>
- Canale, N., Vieno, A., & Griffiths, M. D. (2016). The extent and distribution of gambling-related harms and the prevention paradox in a British population survey. *Journal of Behavioral Addictions*, 5(2), 204-212. <https://doi.org/10.1556/2006.5.2016.023>
- Capizzi, A. M., & Alexandra Da Fonte, M. (2012). Supporting paraeducators through a collaborative classroom support plan. *Focus on Exceptional Children*, 44(6), 1-16.
- Carrion, V. G., & Wong, S. S. (2012). Can traumatic stress alter the brain? Understanding the implications of early trauma on brain development and learning. *Journal of Adolescent Health*, 51(2), S23-S28. <https://doi.org/10.1016/j.jadohealth.2012.04.010>
- Carrion, V. G., Garrett, A., Menon, V., Weems, C. F., & Reiss, A. L. (2008). Posttraumatic stress symptoms and brain function during a response-inhibition task: an fMRI study in youth. *Depression and Anxiety*, 25(6), 514-526. <https://doi.org/10.1002/da.20346>
- Carrion, V. G., Weems, C. F., Richert, K., Hoffman, B. C., & Reiss, A. L. (2010). Decreased prefrontal cortical volume associated with increased bedtime cortisol in traumatized youth. *Biological Psychiatry*, 68(5), 491-493. <https://doi.org/10.1016/j.biopsych.2010.05.010>
- CASEL. (2014). *Collaborative for Academic, Social, and Emotional Learning. 2013 CASEL guide: Effective social and emotional learning programs (Preschool and elementary school)*

- edition).* Chicago, IL. Retrieved from: <https://casel.org/library/2013-casel-guide-effective-social-and-emotional-learning-programmes-preschool-and-elementary-school-edition-2013/>
- Castillo, R. J., Carlat, D. J., Millon, T., Millon, C. M., Meagher, S., Grossman, S., & American Psychiatric Association. (2007). Diagnostic and statistical manual of mental disorders. *American Psychiatric Association Press, Washington, DC.*
- Catalano, R. F., & Hawkins, J. D. (2002). Response from authors to comments on "Positive youth development in the United States: Research findings on evaluations of positive youth development programs". <https://doi.org/10.1037/1522-3736.5.1.520r>
- Center for Substance Abuse Treatment. (2014). Appendix C of treatment improvement protocol series, No. 57: Trauma-informed care in behavioral health services. Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK207202>
- Cerqueira, J. J., Mailliet, F., Almeida, O. F., Jay, T. M., & Sousa, N. (2007). The prefrontal cortex as a key target of the maladaptive response to stress. *Journal of Neuroscience, 27*(11), 2781-2787. <https://doi.org/10.1523/JNEUROSCI.4372-06.2007>
- Chaby, L. E., Zhang, L., & Liberzon, I. (2017). The effects of stress in early life and adolescence on posttraumatic stress disorder, depression, and anxiety symptomatology in adulthood. *Current Opinion in Behavioral Sciences, 14*, 86-93.  
<https://doi.org/10.1016/j.cobeha.2017.01.001>
- Chafouleas, S. M., Johnson, A. H., Overstreet, S., & Santos, N. M. (2016). Toward a blueprint for trauma-informed service delivery in schools. *School Mental Health, 8*(1), 144-162. <https://doi.org/10.1007/s12310-015-9166-8>

- Chapman, D. P., Dube, S. R., & Anda, R. F. (2007). Adverse childhood events as risk factors for negative mental health outcomes. *Psychiatric Annals*, 37(5).
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217-225. <https://doi.org/10.1016/j.jad.2003.12.013>
- Charleton, M. (2012). Abuse of children in institutional care in 20th-century Ireland: an analysis using fromm's psychology. *Journal of Social Work Practice*, 26(3), 327-339. <https://doi.org/10.1080/02650533.2011.623770>
- Charmandari, E., Tsigos, C., & Chrousos, G. (2005). Endocrinology of the stress response. *Annu. Rev. Physiol.*, 67, 259-284. <https://doi.org/10.1146/annurev.physiol.67.040403.120816>
- Charney, R. S. (1993). *Teaching Children to Care: Management in the Responsive Classroom*. Northeast Foundation for Children, 71 Montague City Road, Greenfield, MA 01301.
- Chen, J. K., & Astor, R. A. (2009). The perpetration of school violence in Taiwan: An analysis of gender, grade level and school type. *School Psychology International*, 30(6), 568-584. <https://doi.org/10.1177/0143034309107076>
- Chen, J. K., & Astor, R. A. (2011). Students' personal traits, violence exposure, family factors, school dynamics and the perpetration of violence in Taiwanese elementary schools. *Health Education Research*, 26(1), 150-166. <https://doi.org/10.1093/her/cyq083>
- Chesney, E., Goodwin, G. M., & Fazel, S. (2014). Risks of all-cause and suicide mortality in mental disorders: a meta-review. *World Psychiatry*, 13(2), 153-160. <https://doi.org/10.1002/wps.20128>

Chi, P., Du, H., King, R. B., Zhou, N., Cao, H., & Lin, X. (2019). Well-Being Contagion in the Family: Transmission of Happiness and Distress Between Parents and Children. *Child Indicators Research*, 12(6), 2189-2202. <https://doi.org/10.1007/s12187-019-09636-4>

Children First Act 2015 (Ire) <https://www.irishstatutebook.ie/eli/2015/act/36/enacted/en/html>. [Accessed: 10 June 2020]

Children's Bureau of the U.S. Department of Health and Human Services. (2019). *Child Maltreatment 2019*. Retrieved from: <https://www.acf.hhs.gov/cb/report/child-maltreatment-2019>

Chrousos, G. P. (1997). The neuroendocrinology of stress: Its relation to the hormonal milieu, growth, and development. *Growth Genet Horm*, 13, 1-8.

Cisler, J. M., Olatunji, B. O., Feldner, M. T., & Forsyth, J. P. (2010). Emotion regulation and the anxiety disorders: An integrative review. *Journal of Psychopathology and Behavioral Assessment*, 32(1), 68-82. <https://doi.org/10.1007/s10862-009-9161-1>

Clark, C., Caldwell, T., Power, C., & Stansfeld, S. A. (2010). Does the influence of childhood adversity on psychopathology persist across the life course? A 45-year prospective epidemiologic study. *Annals of Epidemiology*, 20(5), 385-394.

<https://doi.org/10.1016/j.annepidem.2010.02.008>

Clark, J. (2004). Against the corporal punishment of children. *Cambridge Journal of Education*, 34(3), 363-371. <https://doi.org/10.1080/0305764042000289974>

Clarke, A. M., & Barry, M. M. (2015). Supporting a whole-school approach to mental health promotion and wellbeing in post-primary schools in Ireland. *School Mental Health: Global Challenges and Opportunities*, 112-124.

Clarke, V., & Braun, V. (2014). Thematic analysis. In *Encyclopedia of Critical Psychology* (pp. 1947-1952). Springer, New York, NY.

Cohen, C. E., & Barron, I. G. (2021). Trauma-Informed High Schools: A Systematic Narrative Review of the Literature. *School Mental Health*, 1-10.

<https://doi.org/10.1007/s12310-021-09432-y>

Cohen, J. & Brown, P., 2013. *School Climate and Adult Learning*. [Online]. Available at: <http://www.schoolclimate.org/publications/documents/sc-brief-adult-learning.pdf> [Accessed on 26 September 2021].

Cohen, N. J., Lojkasek, M., Zadeh, Z. Y., Pugliese, M., & Kiefer, H. (2008). Children adopted from China: A prospective study of their growth and development. *Journal of Child Psychology and Psychiatry*, 49(4), 458-468. <https://doi.org/10.1111/j.1469-7610.2007.01853.x>

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310. <https://doi.org/10.1037/0033-2909.98.2.310>

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 385-396. <https://doi.org/10.2307/2136404>

Cohen, Z. P., Cosgrove, K. T., Akeman, E., Coffey, S., Teague, K., Hays-Grudo, J., & Kirlic, N. (2021). The effect of a mindfulness-based stress intervention on neurobiological and symptom measures in adolescents with early life stress: a randomized feasibility study. *BMC Complementary Medicine and Therapies*, 21(1), 1-14. <https://doi.org/10.1186/s12906-021-03295-1>

- Cole, S. F., Eisner, A., Gregory, M., & Ristuccia, J. (2013). Helping traumatized children learn: Safe, supportive learning environments that benefit all children. *Boston, MA: Massachusetts Advocates for Children Trauma and Learning Policy Initiative.*
- Cole, S. F., O'Brien, J. G., Gadd, M. G., Ristuccia, J., Wallace, D. L., & Gregory, M. (2005). *Helping traumatized children learn: Supportive school environments for children traumatized by family violence.* Massachusetts Advocates for Children.
- Coleman, J. (2019). Helping teenagers in care flourish: What parenting research tells us about foster care. *Child & Family Social Work, 24*(3), 354-359. <https://doi.org/10.1111/cfs.12605>
- Coley, R. L., Leventhal, T., Lynch, A. D., & Kull, M. (2013). Relations between housing characteristics and the well-being of low-income children and adolescents. *Developmental Psychology, 49*(9), 1775. <https://doi.org/10.1037/a0031033>
- Collie, R. J., Perry, N. E., & Martin, A. J. (2017). School context and educational system factors impacting educator stress. In *Educator Stress* (pp. 3-22). Springer, Cham. [https://doi.org/10.1007/978-3-319-53053-6\\_1](https://doi.org/10.1007/978-3-319-53053-6_1)
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology, 104*(4), 1189. <https://doi.org/10.1037/a0029356>
- Colvert, E., Rutter, M., Kreppner, J., Beckett, C., Castle, J., Groothues, C., & Sonuga-Barke, E. J. (2008). Do theory of mind and executive function deficits underlie the adverse outcomes associated with profound early deprivation? Findings from the English and Romanian adoptees study. *Journal of Abnormal Child Psychology, 36*(7), 1057-1068. <https://doi.org/10.1007/s10802-008-9232-x>

- Conn, S. M., & Butterfield, L. D. (2013). Coping with secondary traumatic stress by general duty police officers: Practical implications. *Canadian Journal of Counselling and Psychotherapy*, 47(2).
- Connolly, P., Sibbett, C., Hanratty, J., Kerr, K., O'Hare, L., & Winter, K. (2011). Pupils' emotional health and wellbeing: A review of audit tools and a survey of practice in Northern Ireland post-primary schools. *Belfast: Centre for Effective Education.*
- Considine, M. & Dukelow, F. 2009. *Irish Social Policy – A Critical Introduction*. Dublin: Gill & Macmillan
- Conway, P. F., & Murphy, R. (2013). A rising tide meets a perfect storm: New accountabilities in teaching and teacher education in Ireland. *Irish Educational Studies*, 32(1), 11-36. <https://doi.org/10.1080/03323315.2013.773227>
- Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., & Mallah, K. (2017). Complex trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390-398.
- Cook, C. R., Miller, F. G., Fiat, A., Renshaw, T., Frye, M., Joseph, G., & Decano, P. (2017). Promoting secondary-teachers' well-being and intentions to implement evidence-based practices: randomised evaluation of the achiever resilience curriculum. *Psychology in Schools*, 54(1), 13-28. <https://doi.org/10.1002/pits.21980>
- Coolahan, J. (1981). *Irish Education: Its History and Structure*. Institute of Public Administration. Dublin: Colour Books Ltd.
- Coolahan, J. (2003). *Attracting, Developing and Retaining Effective Teachers: Country Background report for Ireland*. Dublin: Department of Education and Science.
- Coolahan, J., & Hussey, C. (2012). *The Forum on Patronage and Pluralism in the Primary Sector*. Dublin: Department of Education and Skills. [Online]. Available at:

[ww.education.ie/en/press-events/conferences/patronage-and-pluralism-in-the-primarysector/forum-on-patronage-and-pluralism-in-the-primary-sector.html](http://www.education.ie/en/press-events/conferences/patronage-and-pluralism-in-the-primary-sector/forum-on-patronage-and-pluralism-in-the-primary-sector.html) [Accessed on 9 August 2020].

Cornille, T. A., & Meyers, T. W. (1999). Secondary traumatic stress among child protective service workers: Prevalence, severity and predictive factors. *Traumatology*, 5(1), 15-31.  
<https://doi.org/10.1177/F153476569900500105>

Costa, D. A. (2017). Transforming Traumatised Children Within NSW Department of Education Schools: One School Counsellor's Model for Practise–REWIRE. *Children Australia*, 42(2), 113-126. <https://doi.org/10.1017/cha.2017.14>

Costello, E. J., Copeland, W., & Angold, A. (2011). Trends in psychopathology across the adolescent years: what changes when children become adolescents, and when adolescents become adults?. *Journal of Child Psychology and Psychiatry*, 52(10), 1015-1025.  
<https://doi.org/10.1111/j.1469-7610.2011.02446.x>

Costello, E., & Lawler, M. (2014). An exploratory study of the effects of mindfulness on perceived levels of stress among school-children from lower socioeconomic backgrounds. *The International Journal of Emotional Education*, 6 (2), 21-39

Cowell, R. A., Cicchetti, D., Rogosch, F. A., & Toth, S. L. (2015). Childhood maltreatment and its effect on neurocognitive functioning: Timing and chronicity matter. *Development and psychopathology*, 27(2), 521-533. <https://doi.org/10.1017/S0954579415000139>

Craig, S. E. (2008). Reaching and Teaching Children Who Hurt: Strategies for Your Classroom. *Education Review*. <http://dx.doi.org/10.14507/er.v0.985>

- Cramer, S. C., Sur, M., Dobkin, B. H., O'brien, C., Sanger, T. D., Trojanowski, J. Q., & Chen, W. G. (2011). Harnessing neuroplasticity for clinical applications. *Brain*, 134(6), 1591-1609. <https://doi.org/10.1093/brain/awr039>
- Creamer, M., Burgess, P., & McFarlane, A. C. (2001). Post-traumatic stress disorder: findings from the Australian National Survey of Mental Health and Well-being. *Psychological Medicine*, 31(7), 1237-1247. <https://doi.org/10.1017/S0033291701004287>
- Creeden, K. (2007). Trauma and attachment: Bringing a new understanding to the classroom. Massachusetts Department of Education Implementing Trauma-Sensitive Schools Conference.
- Crenna-Jennings, W. (2021). *Young people's mental and emotional health: Trajectories and drivers in childhood and adolescence*. Retrieved from Education Policy Institute. website: <https://epi.org.uk/publications-and-research/young-peoples-mental-and-emotional-health/>
- Crosby, S. D. (2015). An ecological perspective on emerging trauma-informed teaching practices. *Children and Schools*, 37(4), 223-230. <https://doi.org/10.1093/cs/cdv027>
- Dahl, R. E., Allen, N. B., Wilbrecht, L., & Suleiman, A. B. (2018). Importance of investing in adolescence from a developmental science perspective. *Nature*, 554(7693), 441-450. <https://doi.org/10.1038/nature25770>
- Daig, I., Herschbach, P., Lehmann, A., Knoll, N., & Decker, O. (2009). Gender and age differences in domain-specific life satisfaction and the impact of depressive and anxiety symptoms: a general population survey from Germany. *Quality of Life Research*, 18(6), 669-678. <https://doi.org/10.1007/s11136-009-9481-3>

Dáil Éireann. (1977). Adjournment Debate. - *Corporal Punishment in Schools*. [Online]. Available at: <http://debates.oireachtas.ie/dáil/1977/11/24/00042.asp> [Accessed on 1 March 2020].

Dale, F.H., and Stephens, T.A., Report of Messrs. F. H. Dale and T. A. Stephens, *His Majesty's Inspectors, Board of Education, on Intermediate Education in Ireland*.

<http://www.dippam.ac.uk/eppi/documents/20685> [Accessed 09 February 2015]

Daly, M., & Clavero, S. (2004). *Contemporary family policy in Ireland and Europe*. School of Sociology and Social Policy.

Danese, A., McLaughlin, K. A., Samara, M., & Stover, C. S. (2020). Toxic Stress and PTSD in Children: Psychopathology in children exposed to trauma: detection and intervention needed to reduce downstream burden. *The BMJ*, 371. <https://doi.org/10.1136/Fbmj.m3073>

Daniels, J. K., Lamke, J. P., Gaebler, M., Walter, H., & Scheel, M. (2013). White matter integrity and its relationship to PTSD and childhood trauma—A systematic review and meta-analysis. *Depression and Anxiety*, 30(3), 207-216. <https://doi.org/10.1002/da.22044>

Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W., & Kelley, K. W. (2008). From inflammation to sickness and depression: when the immune system subjugates the brain. *Nature Reviews Neuroscience*, 9(1), 46-56. <https://doi.org/10.1038/nrn2297>

Das, J. K., Salam, R. A., Lassi, Z. S., Khan, M. N., Mahmood, W., Patel, V., & Bhutta, Z. A. (2016). Interventions for adolescent mental health: an overview of systematic reviews. *Journal of Adolescent Health*, 59(4), S49-S60.

<https://doi.org/10.1016/j.jadohealth.2016.06.020>

- Davidson, R. J., Putnam, K. M., & Larson, C. L. (2000). Dysfunction in the neural circuitry of emotion regulation--a possible prelude to violence. *Science*, 289(5479), 591-594.  
<https://doi.org/10.1126/science.289.5479.591>
- Davidson-Harden, A., Kuehn, L., & Schugurensky, D. (2010). Neoliberalism and education in Canada. *The Rich World and the Impoverishment of Education* (pp. 67-89). Routledge.
- Day, A. G., Somers, C. L., Baroni, B. A., West, S. D., Sanders, L., & Peterson, C. D. (2015). Evaluation of a trauma-informed school intervention with girls in a residential facility school: Student perceptions of school environment. *Journal of Aggression, Maltreatment and Trauma*, 24(10), 1086-1105. <https://doi.org/10.1080/10926771.2015.1079279>
- De Bellis, M. D., Baum, A. S., Birmaher, B., Keshavan, M. S., Eccard, C. H., Boring, A. M., & Ryan, N. D. (1999). Developmental traumatology part I: Biological stress systems. *Biological Psychiatry*, 45(10), 1259-1270. [https://doi.org/10.1016/S0006-3223\(99\)00044-X](https://doi.org/10.1016/S0006-3223(99)00044-X)
- De Bellis, M. D., Hooper, S. R., Spratt, E. G., & Woolley, D. P. (2009). Neuropsychological findings in childhood neglect and their relationships to pediatric PTSD. *Journal of the International Neuropsychological Society*, 15(6), 868-878.  
<https://doi.org/10.1017/S1355617709990464>
- De Jong, A. R. (2016). Domestic violence, children, and toxic stress. *Widener L. Rev.*, 22, 201.
- Dekel, R., & Solomon, Z. (2006). Marital relations among former prisoners of war: Contribution of posttraumatic stress disorder, aggression, and sexual satisfaction. *Journal of Family Psychology*, 20(4), 709. <https://doi.org/10.1037/0893-3200.20.4.709>
- Delaney-Black, V., Covington, C., Ondersma, S. J., Nordstrom-Klee, B., Templin, T., Ager, J., & Sokol, R. J. (2002). Violence exposure, trauma, and IQ and/or reading deficits among

urban children. *Archives of Pediatrics & Adolescent Medicine*, 156(3), 280-285.

<https://doi.org/10.1001/archpedi.156.3.280>

Department of Education and Science issued Circular (1998 M12/98), *Violence towards Staff in Schools*. Dublin: The Stationery Office.

Department of Education. (1925). *Statistics Relating to National Education in Saorstát for the Year 1922–23*. Dublin: The Stationery Office

Department of Education. (1998). *Education Act*. Dublin: The Stationery Office.

Department of Health. (2015). *Future in Mind*.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/414024/Childrens\\_Mental\\_Health.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/414024/Childrens_Mental_Health.pdf)

Devaney, J., Bunting, L., Davidson, G., Hayes, D., Lazenbatt, A., & Spratt, T. (2012). Still vulnerable: the impact of early childhood experiences on adolescent suicide and accidental death.

DHSSPS (2012) Child and Adolescent Mental Health Service- A Service Model, available from <https://www.health-ni.gov.uk/publications/child-and-adolescent-mental-healthservices-service-model-july-2012>.

Diamond, A. (2012). Activities and programs that improve children's executive functions.

*Current Directions in Psychological Science*, 21(5), 335-341.

<https://doi.org/10.1177/F0963721412453722>

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64, 135-168.

<https://doi.org/10.1146/Fannurev-psych-113011-143750>

- Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science*, 333(6045), 959-964.  
<https://doi.org/10.1126/science.1204529>
- Dienstbier, R. A. (1989). Arousal and physiological toughness: implications for mental and physical health. *Psychological Review*, 96(1), 84. <https://doi.org/10.1037/0033-295X.96.1.84>
- Dingwall, N., & Sebba, J. (2018). Evaluation of the attachment aware schools programme: Final Report. *Rees Centre, University of Oxford (pdf)*.
- Dishion, T. J., & Tipsord, J. M. (2011). Peer contagion in child and adolescent social and emotional development. *Annual Review of Psychology*, 62.  
<https://doi.org/10.1146/Fannurev.psych.093008.100412>
- Doane, L. D., Mineka, S., Zinbarg, R. E., Craske, M., Griffith, J. W., & Adam, E. K. (2013). Are flatter diurnal cortisol rhythms associated with major depression and anxiety disorders in late adolescence? The role of life stress and daily negative emotion. *Development and Psychopathology*, 25(3), 629-642. <https://doi.org/10.1017/S0954579413000060>
- Doğan, T., & Totan, T. (2013). Psychometric properties of Turkish version of the Subjective Happiness Scale. *The Journal of Happiness and Well-Being*, 1(1), 20-27.
- Donnelly, K., 2005. *Teaching Study Urges a New Approach on Problem Pupils*. [Online]. Available at: <https://www.independent.ie/life/family/learning/teaching-study-urges-a-new-approach-on-problem-pupils-25989423.html> [Accessed on 06 March 2019].
- Donovan, J. E., Jessor, R., & Costa, F. M. (1991). Adolescent health behavior and conventionality-unconventionality: An extension of problem-behavior therapy. *Health Psychology*, 10(1), 52. <https://doi.org/10.1037/0278-6133.10.1.52>

- Dorado, J. S., Martinez, M., McArthur, L. E., & Leibovitz, T. (2016). Healthy Environments and Response to Trauma in Schools (HEARTS): A whole-school, multi-level, prevention and intervention program for creating trauma-informed, safe and supportive schools. *School Mental Health*, 8(1), 163-176. <https://doi.org/10.1007/s12310-016-9177-0>
- Dowd, M. D. (2017). Early adversity, toxic stress, and resilience: pediatrics for today. *Pediatric Annals*, 46(7), e246-e249. <https://doi.org/10.3928/19382359-20170615-01>
- Drudy, S. (Ed.). (2009). *Education in Ireland: Challenge and Change*. Dublin: Gill & Macmillan Ltd.
- Dubanoski, R. A., Inaba, M., & Gerkewicz, K. (1983). Corporal punishment in schools: Myths, problems and alternatives. *Child Abuse and Neglect*, 7(3), 271-278.  
[https://doi.org/10.1016/0145-2134\(83\)90004-2](https://doi.org/10.1016/0145-2134(83)90004-2)
- Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span: findings from the Adverse Childhood Experiences Study. *JAMA*, 286(24), 3089-3096. <https://doi.org/10.1001/jama.286.24.3089>
- Duckworth, A. L., & Seligman, M. E. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16(12), 939-944.  
<https://doi.org/10.1111/Fj.1467-9280.2005.01641.x>
- Duffy, K. A., McLaughlin, K. A., & Green, P. A. (2018). Early life adversity and health-risk behaviours: proposed psychological and neural mechanisms. *Annals of the New York Academy of Sciences*, 1428(1), 151. <https://doi.org/10.1111/nyas.13928>

- Dugas, D., Summers, K. H., Harris, L. N., & Stich, A. E. (2018). Shrinking budgets, growing demands: Neoliberalism and academic identity tension at regional public universities. *AERA Open*, 4(1), 2332858418757736. <https://doi.org/10.1177/F2332858418757736>
- Duignan, P. (2012). *Educational Leadership: Together Creating Ethical Learning Environments*. London: Cambridge University Press.
- Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics*, 125(4), e778–e786. <https://doi.org/10.1542/peds.2009-0597>
- Dunn, A. H. (2020). “A vicious cycle of disempowerment”: The relationship between teacher morale, pedagogy, and agency in an urban high school. *Teachers College Record*, 122(1), 1-40. <https://doi.org/10.1177/F016146812012200101>
- Dunn, E. C., Soare, T. W., Zhu, Y., Simpkin, A. J., Suderman, M. J., Klengel, T., & Relton, C. L. (2019). Sensitive periods for the effect of childhood adversity on DNA methylation: results from a prospective, longitudinal study. *Biological Psychiatry*, 85(10), 838-849. <https://doi.org/10.1016/j.biopsych.2018.12.023>
- Eccleston, C., Crombez, G., Scotford, A., Clinch, J., & Connell, H. (2004). Adolescent chronic pain: patterns and predictors of emotional distress in adolescents with chronic pain and their parents. *Pain*, 108(3), 221-229. <https://doi.org/10.1016/j.pain.2003.11.008>
- Edition, F. (2013). Diagnostic and statistical manual of mental disorders. *Am Psychiatric Assoc*, 21.
- Education Scotland (2018) Nurture, Adverse Childhood Experiences and Trauma informed practice: Making the links between these approaches. Education Scotland: Livingston.

Retrieved from: <https://dera.ioe.ac.uk/31839/1/inc83-making-the-links-nurture-ACES-andtrauma.pdf>.

Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review*, 66(5), 522-541. <https://doi.org/10.1177/F1077558709335173>

Eisenbraun, K. D. (2007). Violence in schools: Prevalence, prediction, and prevention. *Aggression and Violent Behavior*, 12(4), 459-469. <https://doi.org/10.1016/j.avb.2006.09.008>

Ellis, B. J., Del Giudice, M., & Shirtcliff, E. A. (2013). Beyond allostatic load: The stress response system as a mechanism of conditional adaptation. *Child and Adolescent Psychopathology*, 2, 251-284.

Enlow, M. B., Egeland, B., Blood, E. A., Wright, R. O., & Wright, R. J. (2012). Interpersonal trauma exposure and cognitive development in children to age 8 years: a longitudinal study. *J Epidemiol Community Health*, 66(11), 1005-1010.

EPPI-Centre. (2007). *EPPI-Centre methods for conducting systematic reviews*. Social Science Research Unit, Institute of Education, University of London.

Erskine, H. E., Moffitt, T. E., Copeland, W. E., Costello, E. J., Ferrari, A. J., Patton, G., & Scott, J. G. (2015). A heavy burden on young minds: the global burden of mental and substance use disorders in children and youth. *Psychological Medicine*, 45(7), 1551-1563. <https://doi.org/10.1017/S0033291714002888>

Espelage, D., Anderman, E. M., Brown, V. E., Jones, A., Lane, K. L., McMahon, S. D., & Reynolds, C. R. (2013). Understanding and preventing violence directed against teachers: Recommendations for a national research, practice, and policy agenda. *American Psychologist*, 68(2), 75. <https://doi.org/10.1037/a0031307>

- Essau, C. A., Conradt, J., Sasagawa, S., & Ollendick, T. H. (2012). Prevention of anxiety symptoms in children: Results from a universal school-based trial. *Behavior Therapy*, 43(2), 450-464. <https://doi.org/10.1016/j.beth.2011.08.003>
- Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative risk and child development. *Psychological Bulletin*, 139(6), 1342. <https://doi.org/10.1037/a0031808>
- Every Student Succeeds Act (ESSA) of 2015, US Dept. of Education (2015). Retrieved from: <https://www.ed.gov/essa>.
- Eyal, M. Y. (2019). *The Ripple Project: a trauma-informed mindfulness intervention for teacher stress* (Doctoral dissertation). <http://dx.doi.org/10.26153/tsw/5360>
- Fancourt, N., & Sebba, J. (2018). The Leicestershire Virtual School's Attachment Aware Schools Programme: Evaluation Report.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools in high-income countries. *The Lancet Psychiatry*, 1(5), 377-387. [https://doi.org/10.1016/S2215-0366\(14\)70312-8](https://doi.org/10.1016/S2215-0366(14)70312-8)
- Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult medical disease, psychiatric disorders, and sexual behavior: Implications for healthcare. *The Impact of Early Life Trauma on Health and Disease: The Hidden Epidemic*, 77-87.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study.

*American Journal of Preventive Medicine*, 14(4), 245-258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)

Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse and Neglect*, 32(6), 607-619. <https://doi.org/10.1016/j.chab.2006.12.018>

Fergusson, D. M., Horwood, L. J., & Ridder, E. M. (2007). Conduct and attentional problems in childhood and adolescence and later substance use, abuse and dependence: results of a 25-year longitudinal study. *Drug and Alcohol Dependence*, 88, S14-S26. <https://doi.org/10.1016/j.drugalcdep.2006.12.011>

Fernando, S. C., Beblo, T., Schlosser, N., Terfehr, K., Otte, C., Löwe, B., & Wingenfeld, K. (2012). Associations of childhood trauma with hypothalamic-pituitary-adrenal function in borderline personality disorder and major depression. *Psychoneuroendocrinology*, 37(10), 1659-1668. <https://doi.org/10.1016/j.psyneuen.2012.02.012>

Figley, C. R. (1983). Catastrophes: An overview of family reactions. *Stress and the family/edited by Hamilton I. McCubbin & Charles R. Fisley*, (pp. 3–20)

Figley, C. R., & Kleber, R. J. (1995). Beyond the “victim”. In *Beyond Trauma* (pp. 75-98). Springer, Boston, MA. [https://doi.org/10.1007/978-1-4757-9421-2\\_5](https://doi.org/10.1007/978-1-4757-9421-2_5)

Fishbein, D., Warner, T., Krebs, C., Trevarthen, N., Flannery, B., & Hammond, J. (2009). Differential relationships between personal and community stressors and children’s neurocognitive functioning. *Child Maltreatment*, 14(4), 299-315. <https://doi.org/10.1177/F1077559508326355>

Fitzgerald, B. (2019). *Movement matters: developing school-based occupational therapy practice in Irish post primary schools* (Doctoral dissertation, Doctoral thesis). Trinity College Dublin, Irlanda).

Fitzsimons, E., Goodman, A., Kelly, E., & Smith, J. P. (2017). Poverty dynamics and parental mental health: Determinants of childhood mental health in the UK. *Social Science & Medicine*, 175, 43-51. <https://doi.org/10.1016/j.socscimed.2016.12.040>

Flarity, K., Gentry, J. E., & Mesnikoff, N. (2013). The effectiveness of an educational program on preventing and treating compassion fatigue in emergency nurses. *Advanced Emergency Nursing Journal*, 35(3), 247-258.

<https://doi.org/10.1097/TME.0b013e31829b726f>

Flook, L., Goldberg, S. B., Pinger, L., & Davidson, R. J. (2015). Promoting prosocial behaviour and self-regulatory skills in preschool children through a mindfulness-based kindness curriculum. *Developmental Psychology*, 51(1), 44. <https://doi.org/10.1037/a0038256>

Flynn, R., Albrecht, L., & Scott, S. D. (2018). Two approaches to focus group data collection for qualitative health research: Maximizing resources and data quality. *International Journal of Qualitative Methods*, 17(1), 1609406917750781.

<https://doi.org/10.1177/F1609406917750781>

Foley, C. (2013). *Investigation of stress and burnout in Irish second-level teachers: A mixed-methods approach* (Doctoral dissertation, University College Cork).

Foley, C., & Murphy, M. (2015). Burnout in Irish teachers: Investigating the role of individual differences, work environment and coping factors. *Teaching and Teacher Education*, 50, 46-55. <https://doi.org/10.1016/j.tate.2015.05.001>

Ford, J. D., Chapman, J., Mack, J. M., & Pearson, G. (2006). Pathways from traumatic child victimization to delinquency: Implications for juvenile and permanency court proceedings and decisions. *Juvenile and Family Court Journal*, 57(1), 13-26.

<https://doi.org/10.1111/j.1755-6988.2006.tb00111.x>

Foreman, T., & Bates, P. (2021). Equipping Preservice Teachers with Trauma Informed Care for the Classroom. *Northwest Journal of Teacher Education*, 16(1), 2.

<https://doi.org/10.15760/nwjte.2021.16.1.2>

Fortuna, L. R., Porche, M. V., & Padilla, A. (2018). A treatment development study of a cognitive and mindfulness-based therapy for adolescents with co-occurring post-traumatic stress and substance use disorder. *Psychology and Psychotherapy: Theory, Research and Practice*, 91(1), 42-62. <https://doi.org/10.1111/papt.12143>

Fournier, J. C., & Price, R. B. (2014). Psychotherapy and neuroimaging. *Focus*, 12(3), 290-298. <https://doi.org/10.1176/appi.focus.12.3.290>

Frank, J. L., Reibel, D., Broderick, P., Cantrell, T., & Metz, S. (2015). The effectiveness of mindfulness-based stress reduction on educator stress and well-being: Results from a pilot study. *Mindfulness*, 6(2), 208-216. <https://doi.org/10.1007/s12671-013-0246-2>

Fraser, A., Murphy, E., & Kelly, S. (2013). Deepening neoliberalism via austerity and ‘reform’: The case of Ireland. *Human Geography*, 6(2), 38-53.

<https://doi.org/10.1177/F194277861300600204>

Friedman, M. J., Resick, P. A., Bryant, R. A., & Brewin, C. R. (2011). Considering PTSD for DSM-5. *Depression and Anxiety*, 28(9), 750-769. <https://doi.org/10.1002/da.20767>

- Frydman, J. S., & Mayor, C. (2017). Trauma and early adolescent development: Case examples from a trauma-informed public health middle school program. *Children & Schools*, 39(4), 238-247. <https://doi.org/10.1093/cs/cdx017>
- Fuhrmann, D., Knoll, L. J., & Blakemore, S. J. (2015). Adolescence as a sensitive period of brain development. *Trends in Cognitive Sciences*, 19(10), 558-566.
- Gabard-Durnam, L. J., & McLaughlin, K. A. (2019). Do sensitive periods exist for exposure to adversity? *Biological Psychiatry*, 85(10), 789. <https://doi.org/10.1016/j.biopsych.2019.03.975>
- Gabbay, V., Klein, R. G., Alonso, C. M., Babb, J. S., Nishawala, M., De Jesus, G., & Gonzalez, C. J. (2009). Immune system dysregulation in adolescent major depressive disorder. *Journal of Affective Disorders*, 115(1-2), 177-182. <https://doi.org/10.1016/j.jad.2008.07.022>
- Galla, B. M. (2016). Within-person changes in mindfulness and self-compassion predict enhanced emotional well-being in healthy, but stressed adolescents. *Journal of Adolescence*, 49, 204-217. <https://doi.org/10.1016/j.adolescence.2016.03.016>
- Galla, B. M., Kaiser-Greenland, S., & Black, D. S. (2016). Mindfulness training to promote self-regulation in youth: Effects of the Inner Kids program. In *Handbook of Mindfulness in Education* (pp. 295-311). Springer, New York, NY. [https://doi.org/10.1007/978-1-4939-3506-2\\_19](https://doi.org/10.1007/978-1-4939-3506-2_19)
- Geddes, H. (2003). Attachment and the child in school. Part I: Attachment theory and the 'dependent' child. *Emotional and Behavioural Difficulties*, 8(3), 231-242. <https://doi.org/10.1080/13632750300507021>

- Giant, C. L., & Vartanian, L. R. (2003). Experiences with parental aggression during childhood and self-concept in adulthood: The importance of subjective perceptions. *Journal of Family Violence*, 18(6), 361-367. <https://doi.org/10.1023/A:1026253700293>
- Gibb, N. (2015). The purpose of education. *London: Department for Education*. Retrieved from: <https://www.gov.uk/government/speeches/the-purpose-of-education#:~:text=Three%20purposes%20%2D%20empowering%20young%20people,guide%20our%20programmeme%20of%20reform>
- Gibson, E. M., Purger, D., Mount, C. W., Goldstein, A. K., Lin, G. L., Wood, L. S., & Monje, M. (2014). Neuronal activity promotes oligodendrogenesis and adaptive myelination in the mammalian brain. *Science*, 344(6183). <https://doi.org/10.1126/science.1252304>
- Giedd, J. N., Blumenthal, J., Jeffries, N. O., Castellanos, F. X., Liu, H., Zijdenbos, A., & Rapoport, J. L. (1999). Brain development during childhood and adolescence: a longitudinal MRI study. *Nature Neuroscience*, 2(10), 861-863. <https://doi.org/10.1038/13158>
- Gilbert, C. (2019). Creating educational destruction: A critical exploration of central neoliberal concepts and their transformative effects on public education. In *The Educational Forum* (Vol. 83, No. 1, pp. 60-74). Routledge.
- Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6), 291-295. <https://doi.org/10.1038/bdj.2008.192>
- Gillen, A. M., Kirby, K., McBride, O., McGlinchey, E., & Rushe, T. (2019). Comparing self-harm (SH) thoughts and behaviours among a community sample of younger and older adolescents in Northern Ireland. *Child Care in Practice*, 25(2), 189-199. <https://doi.org/10.1080/13575279.2017.1358152>

Goff, B. S. N., Crow, J. R., Reisbig, A. M., & Hamilton, S. (2009). The impact of soldiers' deployments to Iraq and Afghanistan: Secondary traumatic stress in female partners. *Journal of Couple & Relationship Therapy, 8*(4), 291-305.

<https://doi.org/10.1080/15332690903246085>

Goldberg, J. M., Sklad, M., Elfrink, T. R., Schreurs, K. M., Bohlmeijer, E. T., & Clarke, A. M. (2019). Effectiveness of interventions adopting a whole school approach to enhancing social and emotional development: a meta-analysis. *European Journal of Psychology of Education, 34*(4), 755-782. <https://doi.org/10.1007/s10212-018-0406-9>

Goodman, A., & Goodman, R. (2009). Strengths and difficulties questionnaire as a dimensional measure of child mental health. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*(4), 400-403. <https://doi.org/10.1097/CHI.0b013e3181985068>

Goodman, M. S. (2019). *Targeting Self-Regulation and Disease Resilience in Elementary School Students Through a Mindfulness-Based Social-Emotional Learning Curriculum* (Doctoral dissertation, Alliant International University).

Graham, C. A., & Easterbrooks, M. A. (2000). School-aged children's vulnerability to depressive symptomatology: The role of attachment security, maternal depressive symptomatology, and economic risk. *Development and Psychopathology, 12*(2), 201-213.

<https://doi.org/10.1017/S0954579400002054>

Granger, D. A. (1998). Children's salivary cortisol, internalising behaviour problems, and family environment: Results from the Concordia Longitudinal Risk Project. *International Journal of Behavioral Development, 22*(4), 707-728.

<https://doi.org/10.1080/016502598384135>

- Gray, C., Wilcox, G., & Nordstokke, D. (2017). Teacher mental health, school climate, inclusive education and student learning: A review. *Canadian Psychology/Psychologie Canadienne*, 58(3), 203. <https://doi.org/10.1037/cap0000117>
- Grayson, J. L., & Alvarez, H. K. (2008). School climate factors relating to teacher burnout: A mediator model. *Teaching and Teacher Education*, 24(5), 1349-1363. <https://doi.org/10.1016/j.tate.2007.06.005>
- Greenough, W. T., Black, J. E., & Wallace, C. S. (2008). Experience and Brain Development. *Brain Development and Cognition: A Reader*, 186.
- Grosche, M., & Volpe, R. J. (2013). Response-to-intervention (RTI) as a model to facilitate inclusion for students with learning and behaviour problems. *European Journal of Special Needs Education*, 28(3), 254-269. <https://doi.org/10.1080/08856257.2013.768452>
- Grummell, B., Devine, D., & Lynch, K. (2009). The care-less manager: Gender, care and new managerialism in higher education. *Gender and Education*, 21(2), 191-208. <https://doi.org/10.1080/09540250802392273>
- Gunnar, M. R., & Quevedo, K. M. (2007b). Early care experiences and HPA axis regulation in children: a mechanism for later trauma vulnerability. *Progress in Brain Research*, 167, 137-149. [https://doi.org/10.1016/S0079-6123\(07\)67010-1](https://doi.org/10.1016/S0079-6123(07)67010-1)
- Gunnar, M., & Quevedo, K. (2007a). The neurobiology of stress and development. *Annu. Rev. Psychol.*, 58, 145-173.
- Habib, K. E., Gold, P. W., & Chrousos, G. P. (2001). Neuroendocrinology of stress. *Endocrinology and Metabolism Clinics*, 30(3), (pp. 695-728). [https://doi.org/10.1016/S0889-8529\(05\)70208-5](https://doi.org/10.1016/S0889-8529(05)70208-5)

Haggerty, R. J., Garmezy, N., Sherrod, L. R., & Rutter, M. (Eds.). (1996). *Stress, risk, and resilience in children and adolescents: Processes, mechanisms, and interventions*. Cambridge University Press.

Hair, N. L., Hanson, J. L., Wolfe, B. L., & Pollak, S. D. (2015). Association of child poverty, brain development, and academic achievement. *JAMA Pediatrics*, 169(9), 822-829.  
<https://doi.org/10.1001/jamapediatrics.2015.1475>

Halladay, J. E., Dawdy, J. L., McNamara, I. F., Chen, A. J., Vitoroulis, I., McInnes, N., & Munn, C. (2019). Mindfulness for the Mental Health and Well-Being of Post-Secondary Students: A Systematic Review and Meta-Analysis. *Mindfulness*, 10 (3), 397-414.

<https://doi.org/10.1007/s12671-018-0979-z>

Hamilton, L. S., Doss, C. J., & Steiner, E. D. (2019). Teacher and Principal Perspectives on Social and Emotional Learning in America's Schools: Findings from the American Educator Panels--Appendices. Research Report. RR-2991-BMGF. *RAND Corporation*.

Hankin, B. L. (2008). Rumination and depression in adolescence: Investigating symptom specificity in a multiwave prospective study. *Journal of Clinical Child & Adolescent Psychology*, 37(4), 701-713. <https://doi.org/10.1080/15374410802359627>

Hankin, B. L., Young, J. F., Abela, J. R., Smolen, A., Jenness, J. L., Gulley, L. D., & Oppenheimer, C. W. (2015). Depression from childhood into late adolescence: influence of gender, development, genetic susceptibility, and peer stress. *Journal of Abnormal Psychology*, 124(4), 803. <https://doi.org/10.1037/abn0000089>

Hanna, T., 1998. *A Case for Denominational Education in A Pluralist Society*. Thesis. Dublin: Marino Institute of Education/Milltown Institute

- Hanson, R. F., & Lang, J. (2016). A critical look at trauma-informed care among agencies and systems serving maltreated youth and their families. *Child Maltreatment*, 21(2), 95-100. <https://doi.org/10.1177/F1077559516635274>
- Harms, M. B., Shannon Bowen, K. E., Hanson, J. L., & Pollak, S. D. (2018). Instrumental learning and cognitive flexibility processes are impaired in children exposed to early life stress. *Developmental Science*, 21(4), e12596. <https://doi.org/10.1111/desc.12596>
- Harper, D. J., & Cromby, J. (2020). From ‘what’s wrong with you?’To ‘what’s happened to you?’: an introduction to the special issue on the power threat meaning framework. *Journal of Constructivist Psychology*, 1-6. <https://doi.org/10.1080/10720537.2020.1773362>
- Harris, M. E., & Fallot, R. D. (2001). *Using trauma theory to design service systems*. Jossey-Bass/Wiley.
- Hart, H., & Rubia, K. (2012). Neuroimaging of child abuse: a critical review. *Frontiers in Human Neuroscience*, 6, 52. <https://doi.org/10.3389/fnhum.2012.00052>
- Hart, S. N., Lee, Y., & Wernham, M. (2011). A new age for child protection—General comment 13: Why it is important, how it was constructed, and what it intends?. *Child Abuse and Neglect*, 35(12), 970-978. <https://doi.org/10.1016/j.chab.2011.09.007>
- Hattie, J. A., & Donoghue, G. M. (2016). Learning strategies: A synthesis and conceptual model. *npj Science of Learning*, 1(1), 1-13. <https://doi.org/10.1038/npjscilearn.2016.13>
- Hawton, K., Rodham, K., Evans, E., & Weatherall, R. (2002). Deliberate self-harm in adolescents: self-report survey in schools in England. *BMJ*, 325(7374), 1207-1211. <https://doi.org/10.1136/bmj.325.7374.1207>
- Hayes, N. (2000). Framework for Qualitative Analysis in Doing Psychological Research. *Buckingham, UK: Open University Press*.

- He, T., Guo, C., Wang, C., Hu, C., & Chen, H. (2020). Effect of early life stress on anxiety and depressive behaviors in adolescent mice. *Brain and Behavior, 10*(3), e01526. <https://doi.org/10.1002/brb3.1526>
- Heim, C., Newport, D. J., Mletzko, T., Miller, A. H., & Nemeroff, C. B. (2008). The link between childhood trauma and depression: insights from HPA axis studies in humans. *Psychoneuroendocrinology, 33*(6), 693-710. <https://doi.org/10.1016/j.psyneuen.2008.03.008>
- hÉireann, B. N. (1937). *Constitution of Ireland*. Stationery Office, Dublin.
- Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2016). Childhood maltreatment exposure and disruptions in emotion regulation: A transdiagnostic pathway to adolescent internalizing and externalizing psychopathology. *Cognitive Therapy and Research, 40*(3), 394-415. <https://doi.org/10.1007/s10608-015-9735-z>
- Henefer, J. (2010). *A research study of 36 behaviour support classrooms*. Navan: National Behaviour Support Service.
- Herd, J. A. (1991). Cardiovascular response to stress. *Physiological Reviews, 71*(1), 305-330. <https://doi.org/10.1152/physrev.1991.71.1.305>
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*(3), 377-391. <https://doi.org/10.1002/jts.2490050305>
- Hertel, R., Frausto, L., & Harrington, R. (2009). *The compassionate schools pilot project report*. Office of the Superintendent of Public Instruction.
- Hewson, C., & Stewart, D. W. (2014). Internet research methods. *Wiley StatsRef: Statistics Reference Online*, 1-6.
- Higgins, J. P., Ramsay, C., Reeves, B. C., Deeks, J. J., Shea, B., Valentine, J. C., & Wells, G. (2013). Issues relating to study design and risk of bias when including non-randomized

studies in systematic reviews on the effects of interventions. *Research Synthesis Methods*, 4(1), 12-25. <https://doi.org/10.1002/jrsm.1056>

Hill, C. L., & Updegraff, J. A. (2012). Mindfulness and its relationship to emotional regulation. *Emotion*, 12(1), 81. <https://doi.org/10.1037/a0026355>

Hobbs, C., Paulsen, D., & Thomas, J. (2019). Trauma-informed practice for pre-service teachers. In *Oxford Research Encyclopedia of Education*.  
<https://doi.org/10.1093/acrefore/9780190264093.013.1435>

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 78(2), 169. <https://doi.org/10.1037/a0018555>

Holt, M. K., Felix, E., Grimm, R., Nylund-Gibson, K., Green, J. G., Poteat, V. P., & Zhang, C. (2017). A latent class analysis of past victimization exposures as predictors of college mental health. *Psychology of Violence*, 7(4), 521. <https://doi.org/10.1037/vio0000068>

Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse and Neglect*, 32(8), 797-810. <https://doi.org/10.1016/j.chab.2008.02.004>

Hoover, S. A. (2019). Policy and practice for trauma-informed schools. *State Education Standard*, 19(1), 25-29.

Hornor, G. (2015). Childhood trauma exposure and toxic stress: What the PNP needs to know. *Journal of Pediatric Health Care*, 29(2), 191-198.  
<https://doi.org/10.1016/j.pedhc.2014.09.006>

Hostinar, C. E., Sullivan, R. M., & Gunnar, M. R. (2014). Psychobiological mechanisms underlying the social buffering of the hypothalamic-pituitary-adrenocortical axis: A review

- of animal models and human studies across development. *Psychological Bulletin*, 140(1), 256. <https://doi.org/10.1037/a0032671>
- Houskamp, B. M., & Foy, D. W. (1991). The assessment of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence*, 6(3), 367-375.  
<https://doi.org/10.1177/F088626091006003008>
- Houtsonen, J., Czaplicka, M., Lindblad, S., Sohlberg, P., & Sugrue, C. (2010). Welfare state restructuring in education and its national refractions: Finnish, Irish and Swedish teachers' perceptions of current changes. *Current Sociology*, 58(4), 597-622.  
<https://doi.org/10.1177/F0011392110368000>
- Hue, M. T., & Lau, N. S. (2015). Promoting well-being and preventing burnout in teacher education: A pilot study of a mindfulness-based programme for pre-service teachers in Hong Kong. *Teacher Development*, 19(3), 381-401.  
<https://doi.org/10.1080/13664530.2015.1049748>
- Humphreys, K. L., Gleason, M. M., Drury, S. S., Miron, D., Nelson 3rd, C. A., Fox, N. A., & Zeanah, C. H. (2015). Effects of institutional rearing and foster care on psychopathology at age 12 years in Romania: follow-up of an open, randomised controlled trial. *The Lancet Psychiatry*, 2(7), 625-634. [https://doi.org/10.1016/S2215-0366\(15\)00095-4](https://doi.org/10.1016/S2215-0366(15)00095-4)
- Hwang, Y. S., Bartlett, B., Greben, M., & Hand, K. (2017). A systematic review of mindfulness interventions for in-service teachers: A tool to enhance teacher wellbeing and performance. *Teaching and Teacher Education*, 64, 26-42.  
<https://doi.org/10.1016/j.tate.2017.01.015>
- Hydon, S., Wong, M., Langley, A. K., Stein, B. D., & Kataoka, S. H. (2015). Preventing secondary traumatic stress in educators. *Child and Adolescent Psychiatric Clinics*, 24(2), 319-333. <https://doi.org/10.1016/j.chc.2014.11.003>

- Hyland, A. (2012). A review of the structure of initial teacher education provision in Ireland. *Background Paper for the International Review Team*. [Online]. Available on: <http://www.hea.ie/sites/default/files/ainehylandfinalreport.pdf> [Accessed on 28 November 2020].
- Hyman, O. (2004). Perceived social support and secondary traumatic stress symptoms in emergency responders. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 17(2), 149-156. <https://doi.org/10.1023/B:JOTS.0000022621.27014.0e>
- IBM Corporation (2019). SPSS IBM SPSS advanced statistics 21. IBM
- Immordino-Yang, M. H., Darling-Hammond, L., & Krone, C. R. (2019). Nurturing nature: How brain development is inherently social and emotional, and what this means for education. *Educational Psychologist*, 54(3), 185-204. <https://doi.org/10.1080/00461520.2019.1633924>
- Information Analysis Directorate, 2015. Health Inequalities in Northern Ireland: Key Facts 2015. Information Analysis Directorate. Retrieved from <https://www.healthni.gov.uk/sites/default/files/publications/dhssps/hscims-2015-key-facts.pdf>. [Accessed on: 30/08/2021]
- Ismail, F. Y., Fatemi, A., & Johnston, M. V. (2017). Cerebral plasticity: Windows of opportunity in the developing brain. *European Journal of Paediatric Neurology*, 21(1), 23-48. <https://doi.org/10.1016/j.ejpn.2016.07.007>
- Jacob, R., & Parkinson, J. (2015). The potential for school-based interventions that target executive function to improve academic achievement: A review. *Review of Educational Research*, 85(4), 512-552. <https://doi.org/10.3102/F0034654314561338>

Jaffee, S. R., & Christian, C. W. (2014). The Biological Embedding of Child Abuse and Neglect Implications for Policy and Practice. *Social Policy Report*. Volume 28, Number 1. *Society for Research in Child Development*.

Jayawardene, W. P., Lohrmann, D. K., Erbe, R. G., & Torabi, M. R. (2017). Effects of preventive online mindfulness interventions on stress and mindfulness: A meta-analysis of randomized controlled trials. *Preventive Medicine Reports*, 5, 150-159.

<https://doi.org/10.1016/j.pmedr.2016.11.013>

Jee, S. H., Conn, A. M., Szilagyi, P. G., Blumkin, A., Baldwin, C. D., & Szilagyi, M. A. (2010). Identification of social-emotional problems among young children in foster care. *Journal of Child Psychology and Psychiatry*, 51(12), 1351-1358.

<https://doi.org/10.1111/j.1469-7610.2010.02315.x>

Jefferies, P., McGarrigle, L., & Ungar, M. (2019). The CYRM-R: a Rasch-validated revision of the Child and Youth Resilience Measure. *Journal of Evidence-Based Social Work*, 16(1), 70-92. <https://doi.org/10.1080/23761407.2018.1548403>

Jeffers, G., & Lillis, C. (2021). Responding to educational inequality in Ireland; Harnessing teachers' perspectives to develop a framework for professional conversations. *Educational Studies*, 1-27. <https://doi.org/10.1080/03055698.2021.1931043>

Jenkins, S. R., & Baird, S. (2002). Secondary traumatic stress and vicarious trauma: A validation study. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 15(5), 423-432.

<https://doi.org/10.1023/A:1020193526843>

Jennings, P. A. (2015). Early childhood teachers' well-being, mindfulness, and self-compassion in relation to classroom quality and attitudes towards challenging students. *Mindfulness*, 6(4), 732-743. <https://doi.org/10.1007/s12671-014-0312-4>

- Jensen, S. K., Berens, A. E., & Nelson 3rd, C. A. (2017). Effects of poverty on interacting biological systems underlying child development. *The Lancet Child & Adolescent Health*, 1(3), 225-239. [https://doi.org/10.1016/S2352-4642\(17\)30024-X](https://doi.org/10.1016/S2352-4642(17)30024-X)
- Johnson, J. G., Harris, E. S., Spitzer, R. L., & Williams, J. B. (2002). The patient health questionnaire for adolescents: validation of an instrument for the assessment of mental disorders among adolescent primary care patients. *Journal of Adolescent Health*, 30(3), 196-204. [https://doi.org/10.1016/S1054-139X\(01\)00333-0](https://doi.org/10.1016/S1054-139X(01)00333-0)
- Jones, K. L. L., McMahon, S. D., Reddy, L., Reynolds, C., Edmiston, A., & Rickoff, R. (2011). Understanding and Preventing Violence Directed Against Teachers: Recommendations for a National Research, Practice and Policy Agenda. <https://doi.org/10.1037/a0031307>
- Juruena, M. F., Eror, F., Cleare, A. J., & Young, A. H. (2020). The role of early life stress in HPA axis and anxiety. *Anxiety Disorders*, 141-153. [https://doi.org/10.1007/978-981-32-9705-0\\_9](https://doi.org/10.1007/978-981-32-9705-0_9)
- Kabat-Zinn, J. (1982). An outpatient program in behavioural medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4(1), 33-47. [https://doi.org/10.1016/0163-8343\(82\)90026-3](https://doi.org/10.1016/0163-8343(82)90026-3)
- Kadosh, K. C., Johnson, M. H., Henson, R. N., Dick, F., & Blakemore, S. J. (2013). Differential face-network adaptation in children, adolescents and adults. *Neuroimage*, 69, 11-20. <https://doi.org/10.1016/j.neuroimage.2012.11.060>
- Kalmbach, D. A., Roth, T., Cheng, P., Ong, J. C., Rosenbaum, E., & Drake, C. L. (2020). Mindfulness and nocturnal rumination are independently associated with symptoms of

insomnia and depression during pregnancy. *Sleep Health*, 6(2), 185-191.

<https://doi.org/10.1016/j.sleh.2019.11.011>

Karbach, J. (2015). Plasticity of executive functions in childhood and adolescence: Effects of cognitive training interventions. *Revista Argentina de Ciencias del Comportamiento (RACC)*, 7(1), 7.

Kataoka, S., Langley, A. K., Wong, M., Baweja, S., & Stein, B. D. (2012). Responding to students with posttraumatic stress disorder in schools. *Child and Adolescent Psychiatric Clinics*, 21(1), 119-133. <https://doi.org/10.1016/j.chc.2011.08.009>

Kaufman, E. A., Xia, M., Fosco, G., Yaptangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. *Journal of Psychopathology and Behavioural Assessment*, 38(3), 443-455. <https://doi.org/10.1007/s10862-015-9529-3>

Kautz, M. M. (2021). Applications of psychoneuroimmunology models of toxic stress in prevention and intervention efforts across early development. *Brain, Behavior, & Immunity-Health*, 100322. <https://doi.org/10.1016/j.bbih.2021.100322>

Kavanaugh, B. C., Dupont-Frechette, J. A., Jerskey, B. A., & Holler, K. A. (2017). Neurocognitive deficits in children and adolescents following maltreatment: Neurodevelopmental consequences and neuropsychological implications of traumatic stress. *Applied Neuropsychology: Child*, 6(1), 64-78.

<https://doi.org/10.1080/21622965.2015.1079712>

Kavanaugh, B., & Holler, K. (2014). Executive, emotional, and language functioning following childhood maltreatment and the influence of pediatric PTSD. *Journal of Child & Adolescent Trauma*, 7(2), 121-130. <https://doi.org/10.1007/s40653-014-0014-z>

- Kavanaugh, B., Holler, K., & Selke, G. (2015). A neuropsychological profile of childhood maltreatment within an adolescent inpatient sample. *Applied Neuropsychology: Child*, 4(1), 9-19. <https://doi.org/10.1080/21622965.2013.789964>
- Kearns, S., & Hart, N. (2017). Narratives of 'doing, knowing, being and becoming': examining the impact of an attachment-informed approach within initial teacher education. *Teacher Development*, 21(4), 511-527. <https://doi.org/10.1080/13664530.2017.1289976>
- Kelvin, R., Layard, R., & York, A. (2009). Improving Tier 2-3 CAMHS. *London: Centre for Economic Performance*.
- Kenny, M. C., Vazquez, A., Long, H., & Thompson, D. (2017). Implementation and program evaluation of trauma-informed care training across state child advocacy centers: An exploratory study. *Children and Youth Services Review*, 73, 15-23.  
<https://doi.org/10.1016/j.childyouth.2016.11.030>
- Kerr, R. A., Breen, J., Delaney, M., Kelly, C., & Miller, K. (2011). A qualitative study of workplace stress and coping in secondary teachers in Ireland. *Irish Journal of Applied Social Studies*, 11(1), 3. <https://doi.org/10.21427/D7G72Q>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593-602.  
<https://doi.org/10.1001/archpsyc.62.6.593>
- Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Benjet, C. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *The British Journal of Psychiatry*, 197(5), 378-385.  
<https://doi.org/10.1192/bjp.bp.110.080499>

- Keyes, C. L., Eisenberg, D., Perry, G. S., Dube, S. R., Kroenke, K., & Dhingra, S. S. (2012). The relationship of level of positive mental health with current mental disorders in predicting suicidal behaviour and academic impairment in college students. *Journal of American College Health*, 60(2), 126-133. <https://doi.org/10.1080/07448481.2011.608393>
- Khan, L. (2016). Missed opportunities. *A review of recent evidence into children and young people's mental health*, Centre for Mental Health.
- Khoury-Kassabri, M. (2009). The relationship between staff maltreatment of students and bully-victim group membership. *Child Abuse and Neglect*, 33(12), 914-923.  
<https://doi.org/10.1016/j.chab.2009.05.005>
- Khoury-Kassabri, M., Astor, R. A., & Benbenishty, R. (2008). Student victimization by school staff in the context of an Israeli national school safety campaign. *Aggressive Behavior*, 34(1), 1-8. <https://doi.org/10.1002/ab.20180>
- Kidd, P. S., & Parshall, M. B. (2000). Getting the focus and the group: enhancing analytical rigor in focus group research. *Qualitative Health Research*, 10(3), 293-308.  
<https://doi.org/10.1177/F104973200129118453>
- Kievit, R. A., McCormick, E. M., Fuhrmann, D., Deserno, M. K., & Orben, A. (2021). Using large, publicly available datasets to study adolescent development: Opportunities and challenges. *Current Opinion in Psychology*. <https://doi.org/10.1016/j.copsyc.2021.10.003>
- Killeavy, M. (2007). Ireland. In *The Education Systems of Europe* (pp. 378-393). Springer, Dordrecht.
- Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, 51(6), 706-716. <https://doi.org/10.1111/j.1469-7610.2009.02202.x>

Kim, S., Crooks, C. V., Bax, K., & Shokoohi, M. (2021). Impact of Trauma-Informed Training and Mindfulness-Based Social–Emotional Learning Program on Teacher Attitudes and Burnout: A Mixed-Methods Study. *School Mental Health*, 1-14.

<https://doi.org/10.1007/s12310-020-09406-6>

Kim-Cohen, J., Caspi, A., Moffitt, T. E., Harrington, H., Milne, B. J., & Poulton, R. (2003). Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Archives of General Psychiatry*, 60(7), 709-717.

<https://doi.org/10.1001/archpsyc.60.7.709>

King, A. R. (2021). Childhood Adversity Links to Self-Reported Mood, Anxiety, and Stress-Related Disorders. *Journal of Affective Disorders*. <https://doi.org/10.1016/j.jad.2021.05.112>

King, R. B., & Datu, J. A. (2017). Happy classes make happy students: Classmates' well-being predicts individual student well-being. *Journal of School Psychology*, 65, 116-128.

<https://doi.org/10.1016/j.jsp.2017.07.004>

Kinzie, J. D., Sack, W., Angell, R., Clarke, G., & Ben, R. (1989). A three-year follow-up of Cambodian young people traumatized as children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 28(4), 501-504. <https://doi.org/10.1097/00004583-198907000-00006>

Kirby, K., Lyons, A., Mallett, J., Goetzke, K., Dunne, M., Gibbons, W., & McAnee, G. (2019). The Hopeful Minds Programme: A Mixed-method Evaluation of 10 School Curriculum Based, Theoretically Framed, Lessons to Promote Mental Health and Coping Skills in 8–14-year-olds. *Child Care in Practice*, 1-22.

<https://doi.org/10.1080/13575279.2019.1664993>

- Kirke-Smith, M., Henry, L., & Messer, D. (2014). Executive functioning: Developmental consequences on adolescents with histories of maltreatment. *British Journal of Developmental Psychology*, 32(3), 305-319. <https://doi.org/10.1111/bjdp.12041>
- Kirlic, N., Cohen, Z. P., & Singh, M. K. (2020). Is there an ACE up our sleeve? A review of interventions and strategies for addressing behavioral and neurobiological effects of adverse childhood experiences in youth. *Adversity and Resilience Science*, 1(1), 5-28. <https://doi.org/10.1007/s42844-020-00001-x>
- Klatt, M., Browne, E., Harpster, K., & Case-Smith, J. (2012). P04. 35. Sustained effects of a mindfulness-based classroom intervention on behaviour in urban, underserved children. *BMC Complementary and Alternative Medicine*, 12(S1), P305. <https://doi.org/10.1186/1472-6882-12-S1-P305>
- Klemanski, D. H., Curtiss, J., McLaughlin, K. A., & Nolen-Hoeksema, S. (2017). Emotion regulation and the transdiagnostic role of repetitive negative thinking in adolescents with social anxiety and depression. *Cognitive Therapy and Research*, 41(2), 206-219. <https://doi.org/10.1007/s10608-016-9817-6>
- Klengel, T., Mehta, D., Anacker, C., Rex-Haffner, M., Pruessner, J. C., Pariante, C. M., & Binder, E. B. (2013). Allele-specific FKBP5 DNA demethylation mediates gene–childhood trauma interactions. *Nature Neuroscience*, 16(1), 33-41. <https://doi.org/10.1038/nn.3275>
- Knight, C., & Knight, B. A. (2011). 21st century schools: Enhancing students' mental health and well-being. *Contemporary Teaching*, 1, 90-100.
- Knowles, M., Rabinowich, J., De Cuba, S. E., Cutts, D. B., & Chilton, M. (2016). "Do you wanna breathe or eat?": Parent perspectives on child health consequences of food insecurity, trade-offs, and toxic stress. *Maternal and Child Health Journal*, 20(1), 25-32. <https://doi.org/10.1007/s10995-015-1797-8>

- Knudsen, E. I. (2004). Sensitive periods in the development of the brain and behavior. *Journal of Cognitive Neuroscience*, 16(8), 1412-1425.  
<https://doi.org/10.1162/0898929042304796>
- Kolk, B. A. (2005). Developmental trauma disorder: towards a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401-408.
- Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, 23(1), 4-41.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9), 606-613.  
<https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders*, 114(1-3), 163-173. <https://doi.org/10.1016/j.jad.2008.06.026>
- Lambert, S. D., & Loiselle, C. G. (2008). Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing*, 62(2), 228-237.  
<https://doi.org/10.1111/j.1365-2648.2007.04559.x>
- Lanier, P., Maguire-Jack, K., Lombardi, B., Frey, J., & Rose, R. A. (2018). Adverse childhood experiences and child health outcomes: Comparing cumulative risk and latent class approaches. *Maternal and Child Health Journal*, 22(3), 288–297.  
<https://doi.org/10.1007/s10995-017-2365-1>
- Lanza, S. T., Collins, L. M., Lemmon, D. R., & Schafer, J. L. (2007). PROC LCA: A SAS procedure for latent class analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 14(4), 671-694. <https://doi.org/10.1080/10705510701575602>

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. *The Handbook of Behavioral Medicine*, 282-325.

Lazarus, R. S., & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality*, 1(3), 141-169.

Leavey, G., Rosato, M., Harding, S., Corry, D., Divin, N., & Breslin, G. (2020). Adolescent mental health problems, suicidality and seeking help from general practice: A cross-sectional study (Northern Ireland Schools and Wellbeing study). *Journal of Affective Disorders*, 274, 535-544. <https://doi.org/10.1016/j.jad.2020.05.083>

LeDoux, J. E. (2000). Emotion circuits in the brain. *Annual Review of Neuroscience*, 23(1), 155-184. <https://doi.org/10.1176/foc.7.2.foc274>

Lew, D., & Xian, H. (2019). Identifying Distinct Latent Classes of Adverse Childhood Experiences Among US Children and Their Relationship with Childhood Internalizing Disorders. *Child Psychiatry and Human Development*, 1-13. <https://doi.org/10.1007/s10578-019-00871-y>

Little, S. G., & Akin-Little, A. (2013). Trauma in children: A call to action in school psychology. *Journal of Applied School Psychology*, 29(4), 375-388.

<https://doi.org/10.1080/15377903.2012.695769>

Lo, Y., Mendell, N. R., & Rubin, D. B. (2001). Testing the number of components in a normal mixture. *Biometrika*, 88(3), 767-778. <https://doi.org/10.1093/biomet/88.3.767>

Lomas, T., Medina, J. C., Ivitan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2017). The impact of mindfulness on the wellbeing and performance of educators: A systematic review of the empirical literature. *Teaching and Teacher Education*, 61, 132-141.

<https://doi.org/10.1016/j.tate.2016.10.008>

- Longaretti, L., & Toe, D. (2017). School leaders' perspectives on educating teachers to work in vulnerable communities: New insights from the coal face. *Australian Journal of Teacher Education (Online)*, 42(4), 1-18.
- López, E. E., Pérez, S. M., Ochoa, G. M., & Ruiz, D. M. (2008). Adolescent aggression: Effects of gender and family and school environments. *Journal of Adolescence*, 31(4), 433-450. <https://doi.org/10.1016/j.adolescence.2007.09.007>
- Lowenthal, A. (2020). Trauma-informed care implementation in the child-and youth-serving sectors: A scoping review. *International Journal of Child and Adolescent Resilience (IJCAR)*, 7(1), 178-194. <https://doi.org/10.7202/1072597ar>
- Luby, J. L., Barch, D., Whalen, D., Tillman, R., & Belden, A. (2017). Association between early life adversity and risk for poor emotional and physical health in adolescence: A putative mechanistic neurodevelopmental pathway. *JAMA Pediatrics*, 171(12), 1168-1175. <https://doi.org/10.1001/jamapediatrics.2017.3009>
- Lynch, K. (2006). Neo-liberalism and marketisation: The implications for higher education. *European Educational Research Journal*, 5(1), 1-17. <https://doi.org/10.2304/Feerj.2006.5.1.1>
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46(2), 137-155. <https://doi.org/10.1023/A:1006824100041>
- MacLochlainn, J., Mallett, J., Kirby, K., & McFadden, P. (2021). Stressful events and adolescent psychopathology: a person-centred approach to expanding adverse childhood experience categories. *Journal of Child and Adolescent Trauma*, 1-14. <https://doi.org/10.1007/s40653-021-00392-8>

- MacVeigh, T. (2012). Can a Meritocratic Education System Deliver Equality?. *Irish Marxist Review*, 1(4), 27-36.
- Madge, N., Hawton, K., McMahon, E. M., Corcoran, P., De Leo, D., De Wilde, E. J., & Arensman, E. (2011). Psychological characteristics, stressful life events and deliberate self-harm: findings from the Child & Adolescent Self-harm in Europe (CASE) Study. *European Child and Adolescent Psychiatry*, 20(10), 499. <https://doi.org/10.1007/s00787-011-0210-4>
- Madge, N., Hewitt, A., Hawton, K., Wilde, E. J. D., Corcoran, P., Fekete, S., & Ystgaard, M. (2008). Deliberate self-harm within an international community sample of young people: comparative findings from the Child & Adolescent Self-harm in Europe (CASE) Study. *Journal of Child Psychology and Psychiatry*, 49(6), 667-677. <https://doi.org/10.1111/j.1469-7610.2008.01879.x>
- Maguire, M. J., & Cinnéide, S. Ó. (2005). 'A good beating never hurt anyone': The punishment and abuse of children in twentieth century Ireland. *Journal of Social History*, 38(3), 635-652.
- Marengo, D., Fabris, M. A., Prino, L. E., Settanni, M., & Longobardi, C. (2021). Student-teacher conflict moderates the link between students' social status in the classroom and involvement in bullying behaviors and exposure to peer victimization. *Journal of Adolescence*, 87, 86-97. <https://doi.org/10.1016/j.adolescence.2021.01.005>
- Marryat, L., & Frank, J. (2019). Factors associated with adverse childhood experiences in Scottish children: a prospective cohort study. *BMJ Paediatrics Open*, 3(1). <https://doi.org/10.1136/Fbmjpo-2018-000340>
- Martin, M. (1997) *Discipline in Schools Report for the Minister of Education*, Government of Ireland, Department of Education and Science.

Martin, M. (2006). School Matters: The Report of the Task Force on Student Behaviour in Second Level Schools, 2006. *REACH: Journal of Inclusive Education in Ireland*, 20(1), 5-11.

Martin, S. L., Ashley, O. S., White, L., Axelson, S., Clark, M., & Burrus, B. (2017). Incorporating trauma-informed care into school-based programs. *Journal of School Health*, 87(12), 958-967. <https://doi.org/10.1111/josh.12568>

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227.

Masten, A. S. (2015). *Ordinary magic: Resilience in Development*. Guilford Publications. New York, NY, USA, 2015; pp. 1–370

Masten, A. S., & Barnes, A. J. (2018). Resilience in children: Developmental perspectives. *Children*, 5(7), 98. <https://doi.org/10.3390/children5070098>

Masters, G. (2018). Gonski, learning and the case for change. Retrieved from <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1039&context=columnists>

Maynard, B. R., Farina, A., Dell, N. A., & Kelly, M. S. (2019). Effects of trauma-informed approaches in schools: A systematic review. *Campbell Systematic Reviews*, 15(1-2), e1018. <https://doi.org/10.1002/cl2.101>

Mazza, J. J., & Reynolds, W. M. (1999). Exposure to violence in young inner-city adolescents: Relationships with suicidal ideation, depression, and PTSD symptomatology. *Journal of Abnormal Child Psychology*, 27(3), 203-213.

<https://doi.org/10.1023/A:1021900423004>

McAlister, S., Haydon, D., & Scranton, P. (2013). Violence in the lives of children and youth in “post-conflict” Northern Ireland. *Children Youth and Environments*, 23(1), 1-22. <https://doi.org/10.7721/chlyoutenvi.23.1.0001>

- McAneney, H., Tully, M. A., Hunter, R. F., Kouvonen, A., Veal, P., Stevenson, M., & Kee, F. (2015). Individual factors and perceived community characteristics in relation to mental health and mental well-being. *BMC public health*, 15(1), 1-13.  
<https://doi.org/10.1186/s12889-015-2590-8>
- McBride, O., Adamson, G., & Shevlin, M. (2010). A latent class analysis of DSM-IV pathological gambling criteria in a nationally representative British sample. *Psychiatry Research*, 178(2), 401-407. <https://doi.org/10.1016/j.psychres.2009.11.010>
- McCann, I. L., & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress*, 3(1), 131-149. <https://doi.org/10.1007/BF00975140>
- McCartan, C., Morrison, A., Bunting, L., Davidson, G., & McIlroy, J. (2018). Stripping the wallpaper of practice: Empowering social workers to tackle poverty. *Social Sciences*, 7(10), 193. <https://doi.org/10.3390/socsci7100193>
- McCarthy, J. (2011). *Understanding teacher collaboration in disadvantaged urban primary schools: uncovering practices that foster professional learning communities* (Doctoral dissertation, University College Cork).
- McChesney, G. C., Adamson, G., & Shevlin, M. (2015). A latent class analysis of trauma based on a nationally representative sample of US adolescents. *Social Psychiatry and Psychiatric Epidemiology*, 50(8), 1207-1217. <https://doi.org/10.1007/s00127-015-1075-5>
- McCormack, T., & Feeney, A. (2015). The development of the experience and anticipation of regret. *Cognition and Emotion*, 29(2), 266-280.  
<https://doi.org/10.1080/02699931.2014.912201>

McCormick, M. P., Cappella, E., O'Connor, E. E., & McClowry, S. G. (2015). Context matters for social-emotional learning: Examining variation in program impact by dimensions of school climate. *American Journal of Community Psychology*, 56(1-2), 101-119.  
<https://doi.org/10.1007/s10464-015-9733-z>

McCulloch, G. (2017). *Finnish lessons 2.0: what can the world learn from educational change in Finland?* By Pasi Sahlberg The Finnish education mystery: historical and sociological essays on schooling in Finland. By Hannu Simola.

<https://doi.org/10.1080/00071005.2017.1312818>

McDonnell, L. M. (2015). Stability and change in Title I testing policy. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 1(3), 170-186.

<https://doi.org/10.7758/RSF.2015.1.3.09>

McEwen, B. S. (2003). Mood disorders and allostatic load. *Biological Psychiatry*, 54(3), 200-207. [https://doi.org/10.1016/S0006-3223\(03\)00177-X](https://doi.org/10.1016/S0006-3223(03)00177-X)

McEwen, B. S. (2006). Protective and damaging effects of stress mediators: central role of the brain. *Dialogues in Clinical Neuroscience*, 8(4), 367.

<https://doi.org/10.31887/DCNS.2006.8.4/bmcewen>

McEwen, B. S. (2007). Physiology and neurobiology of stress and adaptation: central role of the brain. *Physiological Reviews*, 87(3), 873-904.

<https://doi.org/10.1152/physrev.00041.2006>

McEwen, B. S. (2016). In pursuit of resilience: stress, epigenetics, and brain plasticity. *Annals of the New York Academy of Sciences*, 1373(1), 56-64.

<https://doi.org/10.1111/nyas.13020>

- McEwen, B. S., & Gianaros, P. J. (2011). Stress-and allostasis-induced brain plasticity. *Annual Review of Medicine*, 62, 431-445. <https://doi.org/10.1146/Fannurev-med-052209-100430>
- McGavock, L., & Spratt, T. (2012). Prevalence of adverse childhood experiences in a university population: Associations with use of social services. *British Journal of Social Work*, 44(3), 657-674. <https://doi.org/10.1093/bjsw/bcs127>
- McGlinchey, E. (2019). *The role of emotional regulation in anxiety and depression symptom interplay and expression among school aged females in Northern Ireland* (Doctoral dissertation, Ulster University). <https://doi.org/10.1007/s10862-021-09883-2>
- McGruder, K. (2019). Children learn what they live: Addressing early childhood trauma resulting in toxic stress in schools. *Mid-Western Educational Researcher*, 31(1).
- McInerney, M., & McKlindon, A. (2014). Unlocking the door to learning: Trauma-informed classrooms & transformational schools. *Education Law Center*, 1-24.
- McIntyre, E. M., Baker, C. N., Overstreet, S., & The New Orleans Trauma-Informed Schools Learning Collaborative. (2019). Evaluating foundational professional development training for trauma-informed approaches in schools. *Psychological Services*, 16(1), 95-102.
- McKay, M. T., Andretta, J. R., Cole, J. C., & Clarke, M. (2020). Socio-demographic predictors of well-being in United Kingdom adolescents, and the impact of well-being on a range of health-related outcomes. *Psychiatry research*, 285, 112728.  
<https://doi.org/10.1016/j.psychres.2019.112728>
- McKee, B. E., & Dillenburger, K. (2009). Child abuse and neglect: Training needs of student teachers. *International Journal of Educational Research*, 48(5), 320-330.  
<https://doi.org/10.1016/j.ijer.2010.03.002>

- McLafferty, M., Armour, C., McKenna, A., O'Neill, S., Murphy, S., & Bunting, B. (2015). Childhood adversity profiles and adult psychopathology in a representative Northern Ireland study. *Journal of Anxiety Disorders*, 35, 42-48. <https://doi.org/10.1016/j.janxdis.2015.07.004>
- McLafferty, M., Armour, C., O'Neill, S., Murphy, S., Ferry, F., & Bunting, B. (2016). Suicidality and profiles of childhood adversities, conflict related trauma and psychopathology in the Northern Ireland population. *Journal of Affective Disorders*, 200, 97-102. <https://doi.org/10.1016/j.jad.2016.04.031>
- McLaughlin, K. A., & Sheridan, M. A. (2016). Beyond cumulative risk: A dimensional approach to childhood adversity. *Current Directions in Psychological Science*, 25(4), 239-245. <https://doi.org/10.1177/F0963721416655883>
- McLaughlin, K. A., Colich, N. L., Rodman, A. M., & Weissman, D. G. (2020). Mechanisms linking childhood trauma exposure and psychopathology: a transdiagnostic model of risk and resilience. *BMC Medicine*, 18(1), 1-11. <https://doi.org/10.1186/s12916-020-01561-6>
- McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2010). Childhood adversities and adult psychopathology in the National Comorbidity Survey Replication (NCS-R) III: associations with functional impairment related to DSM-IV disorders. *Psychological Medicine*, 40(5), 847-859. <https://doi.org/10.1017/S0033291709991115>
- McLaughlin, K. A., Kubzansky, L. D., Dunn, E. C., Waldinger, R., Vaillant, G., & Koenen, K. C. (2010). Childhood social environment, emotional reactivity to stress, and mood and anxiety disorders across the life course. *Depression and Anxiety*, 27(12), 1087-1094. <https://doi.org/10.1002/da.20762>
- McLaughlin, K. A., Peverill, M., Gold, A. L., Alves, S., & Sheridan, M. A. (2015). Child maltreatment and neural systems underlying emotion regulation. *Journal of the American*

*Academy of Child & Adolescent Psychiatry, 54(9), 753-762.*

<https://doi.org/10.1016/j.jaac.2015.06.010>

McLaughlin, K. A., Sheridan, M. A., & Lambert, H. K. (2014). Childhood adversity and neural development: deprivation and threat as distinct dimensions of early experience.

*Neuroscience & Biobehavioral Reviews, 47, 578-591.*

<https://doi.org/10.1016/j.neubiorev.2014.10.012>

McLaughlin, K. A., Sheridan, M. A., Gold, A. L., Duys, A., Lambert, H. K., Peverill, M., & Pine, D. S. (2016). Maltreatment exposure, brain structure, and fear conditioning in children and adolescents. *Neuropsychopharmacology, 41*(8), 1956-1964.

<https://doi.org/10.1038/npp.2015.365>

McLaughlin, K., & Nolen-Hoeksema, S. (2011). The role of rumination in promoting and preventing depression in adolescent girls. *In Depression in Adolescent Girls: Science and Prevention, 112-129.*

McMahon, G., Creaven, A. M., & Gallagher, S. (2020). Stressful life events and adolescent well-being: The role of parent and peer relationships. *Stress and Health, 36*, 299 – 310.

<https://doi.org/10.1002/smi.2923>

Mead, S., Hilton, D., & Curtis, L. (2001). Peer support: A theoretical perspective. *Psychiatric Rehabilitation Journal, 25*(2), 134.

Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., & Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness, 3*(4), 291-307.

<https://doi.org/10.1007/s12671-012-0094-5>

- Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth. *Journal of Abnormal Child Psychology*, 38(7), 985-994.  
<https://doi.org/10.1007/s10802-010-9418-x>
- Mental Health Ireland. (2021). Promoting positive mental health and wellbeing. Available at:  
<https://www.mentalhealthireland.ie/promoting-positive-mental-healthand-wellbeing>
- Mertler, C. A., & Reinhart, R. V. (2016). *Advanced and Multivariate Statistical Methods: Practical Application and Interpretation*. Taylor & Francis.  
<https://doi.org/10.4324/9781003047223>
- Messman-Moore, T. L., & Bhuptani, P. H. (2017). A review of the long-term impact of child maltreatment on posttraumatic stress disorder and its comorbidities: An emotion dysregulation perspective. *Clinical Psychology: Science and Practice*, 24(2), 154.  
<https://doi.org/10.1111/cpsp.12193>
- Miller, G. E., Chen, E., & Zhou, E. S. (2007). If it goes up, must it come down? Chronic stress and the hypothalamic-pituitary-adrenocortical axis in humans. *Psychological Bulletin*, 133(1), 25. <https://doi.org/10.1037/0033-2909.133.1.25>
- Mills, K. L., & Tamnes, C. K. (2014). Methods and considerations for longitudinal structural brain imaging analysis across development. *Developmental Cognitive Neuroscience*, 9, 172-190. <https://doi.org/10.1016/j.dcn.2014.04.004>
- Mineka, S., & Zinbarg, R. (2006). A contemporary learning theory perspective on the etiology of anxiety disorders: it's not what you thought it was. *American Psychologist*, 61(1), 10. <https://doi.org/10.1037/0003-066X.61.1.10>

- Mittal, C., Griskevicius, V., Simpson, J. A., Sung, S., & Young, E. S. (2015). Cognitive adaptations to stressful environments: When childhood adversity enhances adult executive function. *Journal of Personality and Social Psychology, 109*(4), 604.  
<https://doi.org/10.1037/pspi0000028>
- Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., & Sears, M. R. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences, 108*(7), 2693-2698.  
<https://doi.org/10.1073/pnas.1010076108>
- Mok, P. L., Pickles, A., Durkin, K., & Conti-Ramsden, G. (2014). Longitudinal trajectories of peer relations in children with specific language impairment. *Journal of Child Psychology and Psychiatry, 55*(5), 516-527. <https://doi.org/10.1111/jcpp.12190>
- Moody, T. W., & Martin, F. X. (Eds.). (2001). *The course of Irish history*. Dublin: Roberts Rinehart Pub.
- Moore, K., Moretti, M. M., & Holland, R. (1997). A new perspective on youth care programs: Using attachment theory to guide interventions for troubled youth. *Residential Treatment for Children & Youth, 15*(3), 1-24. [https://doi.org/10.1300/J007v15n03\\_01](https://doi.org/10.1300/J007v15n03_01)
- Moreira, M. A. (2017). Challenges and possibilities of teacher education in Portugal in neoliberal times. *Teacher Education and Practice, 30*(2), 310-314.
- Morell, P., & Quarles, R. H. (1999). The myelin sheath. *Basic Neurochemistry: Molecular, Cellular and Medical Aspects, 6*.
- Morgan, A., Pendergast, D., Brown, R., & Heck, D. (2015). Relational ways of being an educator: Trauma-informed practice supporting disenfranchised young people. *International*

*Journal of Inclusive Education*, 19(10), 1037-1051.

<https://doi.org/10.1080/13603116.2015.1035344>

Morgan, M. (2011). Resilience and recurring adverse events: Testing an assets-based model of beginning teachers' experiences. *The Irish Journal of Psychology*, 32(3-4), 92-104.

<https://doi.org/10.1080/03033910.2011.613189>

Morrison, G. M., & Allen, M. R. (2007). Promoting student resilience in school contexts.

*Theory into Practice*, 46(2), 162-169. <https://doi.org/10.1080/00405840701233172>

Mossman, S. A., Luft, M. J., Schroeder, H. K., Varney, S. T., Fleck, D. E., Barzman, D. H., Gilman, R., DelBello, M. P., & Strawn, J. R. (2017). The Generalized Anxiety Disorder 7-item scale in adolescents with generalized anxiety disorder: Signal detection and validation.

*Annals of Clinical Psychiatry : Official Journal of the American Academy of Clinical Psychiatrists*, 29(4), 227–234A.

Mossman, S. A., Luft, M. J., Schroeder, H. K., Varney, S. T., Fleck, D. E., Barzman, D. H., Gilman, R., DelBello, M. P., & Strawn, J. R. (2017). The Generalized Anxiety Disorder 7-item scale in adolescents with generalized anxiety disorder: Signal detection and validation.

*Annals of Clinical Psychiatry : Official Journal of the American Academy of Clinical Psychiatrists*, 29(4), 227–234A.

Mounts, N. S., & Steinberg, L. (1995). An ecological analysis of peer influence on adolescent grade point average and drug use. *Developmental Psychology*, 31(6), 915.

<https://doi.org/10.1037/0012-1649.31.6.915>

Mouton, J. (1996). *Understanding Social Research*. Pretoria: JL Van Schaik Publishers.

Mulcahy, D.G., 1989. Irish Educational Policy: Process & Substance. in D.G. Mulcahy and Denis O' Sullivan. Irish Educational Policy: Process and Substance.

Muijs, D., & Harris, A. (2006). Teacher led school improvement: Teacher leadership in the UK. *Teaching and Teacher Education*, 22(8), 961-972.

<https://doi.org/10.1016/j.tate.2006.04.010>

Mulcahy, D. G., & O'Sullivan, D. (2014). Extract from an interview of Sean O'Connor: 8 September 1986. *Irish Educational Studies*, 33(2), 141-153.

<https://doi.org/10.1080/03323315.2014.920648>

Murphy, F. D., Buckley, H., & Joyce, L. (2005). The Ferns Report.

<http://hdl.handle.net/10147/560434>

Murray, A. (1995). The principle of subsidiarity and the Church. *Australasian Catholic Record, The*, 72(2), 163-172.

Murray, C. J., Lopez, A. D., & World Health Organization. (1996). *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020: summary*. World Health Organization.

Murray-Harvey, R., & Slee, P. T. (2007). Supportive and stressful relationships with teachers, peers and family and their influence on students' social/emotional and academic experience of school. *Journal of Psychologists and Counsellors in Schools*, 17(2), 126-147.

<https://doi.org/10.1375/ajgc.17.2.126>

Muthén, L. K., & Muthén, B. O. (1998). Mplus User's Guide, 7th Edn Los Angeles. CA: Muthén and Muthén, 2012.

Muthén, L. K., & Muthén, B. O. (1998). Mplus users guide and Mplus version 8.2. Retrieved from 10 Nov 2019.

Näkk, A. M., & Timoštšuk, I. (2021). In pursuit of primary teachers' work motivation amid increased external neoliberal pressure in education. *Teacher Development*, 1-19.  
<https://doi.org/10.1080/13664530.2021.1899040>

Napoli, M., Krech, P. R., & Holley, L. C. (2005). Mindfulness training for elementary school students: The attention academy. *Journal of Applied School Psychology*, 21(1), 99-125.  
[https://doi.org/10.1300/J370v21n01\\_05](https://doi.org/10.1300/J370v21n01_05)

National Behaviour Support Service. (2009). *A Model of Support for Behaviour Improvement in Post Primary Schools*. Meath: Navan Education Centre

National Behaviour Support Service. (2010). *Behaviour Support Classrooms: A Research Study of Behaviour Support Classrooms*. Meath: NBSS

National Behaviour Support Service. (2013). *Friends For Life: A School-Based Positive Mental Health Programme Research Project Overview and Findings*. Meath: NBSS

National Council for Special Education. (2012). *The Education of Students with Challenging Behaviour Arising from Severe Emotional Disturbance/ Behavioural Disorders*; NCSE Policy Advice Paper No. 3. Meath: The National Council for Special Education.

National Economic and Social Forum. (2011). *Quality and Standards in Human Services in Ireland: Overview of Concepts and Practice*. National Economic and Social Development Office.

National Scientific Council on the Developing Child. (2014). Excessive stress disrupts the architecture of the developing brain: working paper 3. *Updated Edition*.  
<https://doi.org/10.1108/JCS-01-2014-0006>

- Nelson III, C. A., & Gabard-Durnam, L. J. (2020). Early adversity and critical periods: neurodevelopmental consequences of violating the expectable environment. *Trends in Neurosciences*, 43(3), 133-143. <https://doi.org/10.1016/j.tins.2020.01.002>
- Nelson III, C. A., Zeanah, C. H., & Fox, N. A. (2019). How early experience shapes human development: the case of psychosocial deprivation. *Neural Plasticity*. <https://doi.org/10.1155/2019/1676285>
- Nelson, C. A. (2007). A neurobiological perspective on early human deprivation. *Child Development Perspectives*, 1(1), 13-18. <https://doi.org/10.1111/j.1750-8606.2007.00004.x>
- Nelson, C. A., Scott, R. D., Bhutta, Z. A., Harris, N. B., Danese, A., & Samara, M. (2020). Adversity in childhood is linked to mental and physical health throughout life. *BMJ*, 371. <https://doi.org/10.1136/bmj.m3048>
- Neumann, A., Van Lier, P. A., Frijns, T., Meeus, W., & Koot, H. M. (2011). Emotional dynamics in the development of early adolescent psychopathology: A one-year longitudinal study. *Journal of Abnormal Child Psychology*, 39(5), 657-669. <https://doi.org/10.1007/s10802-011-9509-3>
- Ninis2.nisra.gov.uk. (2019). *NINIS: Northern Ireland Neighbourhood Information Service*. [online] Available at: <https://www.ninis2.nisra.gov.uk/public/Home.aspx> [Accessed 16 Apr. 2019].
- Nishikawa, S., Fujisawa, T. X., Kojima, M., & Tomoda, A. (2018). Type and timing of negative life events are associated with adolescent Depression. *Frontiers in Psychiatry*, 9, 41. <https://doi.org/10.3389/fpsyg.2018.00041>

- Noble, K. G., Houston, S. M., Brito, N. H., Bartsch, H., Kan, E., Kuperman, J. M., & Schork, N. J. (2015). Family income, parental education and brain structure in children and adolescents. *Nature Neuroscience*, 18(5), 773. <https://doi.org/10.1038/nn.3983>
- Nolan, A., & Smyth, E. (2021). *Risk and protective factors for mental health and wellbeing in childhood and adolescence* (No. 120). Research Series. <https://doi.org/10.26504/rs120>
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: the 1989 Loma Prieta Earthquake. *Journal of Personality and Social Psychology*, 61(1), 115. <https://doi.org/10.1037/0022-3514.61.1.115>
- Nolin, P., & Ethier, L. (2007). Using neuropsychological profiles to classify neglected children with or without physical abuse. *Child Abuse and Neglect*, 31(6), 631-643. <https://doi.org/10.1016/j.chab.2006.12.009>
- Northern Ireland Commissioner for Children and Young People, 2015. Think Piece for Community Relations Council's Annual Policy and Practice Conference, One Place – Many People. NICCY, Belfast. Retrieved August 10th, 2021, from <[www.niccy.org/media/1646/niccy-community-relations-paper-27-sept-2018.docx](http://www.niccy.org/media/1646/niccy-community-relations-paper-27-sept-2018.docx)>
- Northern Ireland Statistics and Research Agency's NI Multiple Deprivation Measures Lookup Tool (2017). Accessed from <https://deprivation.nisra.gov.uk/>
- NUT (National Union of Teachers) (2013) Tackling Teacher Stress. <http://www.teachers.org.uk/node/12562>
- Nylund, K., Bellmore, A., Nishina, A., & Graham, S. (2007). Subtypes, severity, and structural stability of peer victimization: What does latent class analysis say? *Child Development*, 78(6), 1706-1722. <https://doi.org/10.1111/j.1467-8624.2007.01097.x>

Nylund-Gibson, K., Grimm, R. P., & Masyn, K. E. (2019). Prediction from latent classes: A demonstration of different approaches to include distal outcomes in mixture models.

*Structural Equation Modeling: A Multidisciplinary Journal*, 1-19.

<https://doi.org/10.1080/10705511.2019.1590146>

O'Leary, S. (2011). *Supporting Behaviour Management in School for Students with Behavioural, Emotional and/or Social Difficulties*. [Online]. Available at:

[http://www.sess.ie/sites/all/modules/wysiwyg/tinymce/jscripts/tiny\\_mce/plugins/filemanager/files/categories/emotional\\_disturbance/besd\\_sess\\_2011.pdf](http://www.sess.ie/sites/all/modules/wysiwyg/tinymce/jscripts/tiny_mce/plugins/filemanager/files/categories/emotional_disturbance/besd_sess_2011.pdf) [Accessed on 20 July 2020].

O'Doherty, T., & O'Donoghue, T. (2021). The Commissioners and the Killanin and Molony Inquiries. In *Radical Reform in Irish Schools, 1900-1922* (pp. 275-290). Palgrave Macmillan, Cham.

O'Flaherty, J., McCormack, O., Gleeson, J., O'Reilly, B., O'Grady, E., & Kenny, N. (2018). Developing the characteristic spirit of publicly managed schools in a more secular and pluralist Ireland. *Cambridge Journal of Education*, 48(3), 317-333.

<https://doi.org/10.1080/0305764X.2017.1332161>

Oberle, E., & Schonert-Reichl, K. A. (2016). Stress contagion in the classroom? The link between classroom teacher burnout and morning cortisol in elementary school students. *Social Science & Medicine*, 159, 30-37. <https://doi.org/10.1016/j.socscimed.2016.04.031>

O'Donovan, B. (2013). *Primary school teachers' understanding of themselves as professionals* (Doctoral dissertation, Dublin City University).

OECD. (2012). *Equity and Quality in Education: Supporting Disadvantaged Students and Schools; Spotlight Report: Ireland*. [Online]. Available at:

<https://www.oecd.org/ireland/49603587.pdf> [Accessed on 30 June 2020].

Oehlberg, B. (2008). Why schools need to be trauma informed. *Trauma and Loss: Research and Interventions*, 8(2), 1-4.

Olatunji, B. O., Cisler, J. M., & Tolin, D. F. (2010). A meta-analysis of the influence of comorbidity on treatment outcome in the anxiety disorders. *Clinical Psychology Review*, 30(6), 642-654. <https://doi.org/10.1016/j.cpr.2010.04.008>

Olweus, D., Limber, S., & Mihalic, S. F. (1999). Blueprints for violence prevention, book nine: Bullying prevention program. *Boulder, CO: Center for the Study and Prevention of Violence*, 12(6), 256-273.

O'Neill, S., & O'Connor, R. C. (2020). Suicide in Northern Ireland: Epidemiology, risk factors, and prevention. *The Lancet Psychiatry*, 7(6), 538-546. [https://doi.org/10.1016/S2215-0366\(19\)30525-5](https://doi.org/10.1016/S2215-0366(19)30525-5)

Organisation For Economic Cooperation and Development, 2010. Education At a Glance 2010. Organisation For Economic Co- Operation. [Online]. Available at: <http://www.oecd.org/dataoecd/45/39/45926093.pdf> [Accessed on 10 July 2021].

Osher, D., Sprague, J., Weissberg, R. P., Axelrod, J., Keenan, S., Kendziora, K., & Zins, J. E. (2008). A comprehensive approach to promoting social, emotional, and academic growth in contemporary schools. *Best Practices in School Psychology*, 4, 1263-1278.

Østby, Y., Tamnes, C. K., Fjell, A. M., & Walhovd, K. B. (2011). Morphometry and connectivity of the fronto-parietal verbal working memory network in development. *Neuropsychologia*, 49(14), 3854-3862.

<https://doi.org/10.1016/j.neuropsychologia.2011.10.001>

O'Sullivan, D. (2005). *Cultural politics and Irish education since the 1950s: Policy paradigms and power*. Dublin: Institute of Public Administration.

- Overstreet, S., & Chafouleas, S. M. (2016). Trauma-Informed Schools: Introduction to the Special Issue. *School Mental Health, 1*(8), 1-6. <https://doi.org/10.1007/s12310-016-9184-1>
- Parker, J., Olson, S., & Bunde, J. (2020). The Impact of Trauma-Based Training on Educators. *Journal of Child and Adolescent Trauma, 1*-11. <https://doi.org/10.1007/s40653-019-00261-5>
- Parker-Jenkins, M. (2008). Sparing the rod: Reflections on the abolition of corporal punishment, and the increase in violence in British classrooms. *Austl. & NZJL & Educ., 13*, 7.
- Parris, S. R., Dozier, M., Purvis, K. B., Whitney, C., Grisham, A., & Cross, D. R. (2015). Implementing trust-based relational intervention® in a charter school at a residential facility for at-risk youth. *Contemporary School Psychology, 19*(3), 157-164.  
<https://doi.org/10.1007/s40688-014-0033-7>
- Perez, L. M., Jones, J., Englert, D. R., & Sachau, D. (2010). Secondary traumatic stress and burnout among law enforcement investigators exposed to disturbing media images. *Journal of Police and Criminal Psychology, 25*(2), 113-124. <https://doi.org/10.1007/s11896-010-9066-7>
- Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health, 8*(1), 7-43. <https://doi.org/10.1007/s12310-016-9175-2>
- Perry, B. D. (1997). Incubated in terror: Neurodevelopmental factors in the "cycle of violence." In J. Osofsky (Ed.), *Children, youth, and violence: The search for solutions* (pp. 124-148). New York, NY: The Guilford Press.

- Perry, B. D. (1998). How exploration and play grow a healthy brain. *Houston Children's Museum and the CIVITAS Initiative*. Retrieved from [http://www.ecmma.org/ecmmahome/links/readings/how\\_exploration\\_and\\_play\\_grow\\_a\\_healthy\\_brain/](http://www.ecmma.org/ecmmahome/links/readings/how_exploration_and_play_grow_a_healthy_brain/)
- Perry, B. D., & Szalavitz, M. (2006). *The boy who was raised as a dog and other stories from a child psychiatrist's notebook*. New York, NY: Basic Books.
- Perry, D. L., & Daniels, M. L. (2016). Implementing trauma-informed practices in the school setting: A pilot study. *School Mental Health*, 8(1), 177-188.  
<https://doi.org/10.1007/s12310-016-9182-3>
- Perry-Parrish, C., Copeland-Linder, N., Webb, L., Shields, A. H., & Sibinga, E. M. (2016). Improving self-regulation in adolescents: current evidence for the role of mindfulness-based cognitive therapy. *Adolescent Health, Medicine and Therapeutics*, 7, 101.  
<https://doi.org/10.2147/FAHMT.S65820>
- Pervanidou, P., Makris, G., Chrouzos, G., & Agorastos, A. (2020). Early life stress and pediatric posttraumatic stress disorder. *Brain Sciences*, 10(3), 169.  
<https://doi.org/10.3390/brainsci10030169>
- Petersen, A. C., Kennedy, R. E., & Sullivan, P. (2017). Coping with adolescence. In *Adolescent Stress* (pp. 93-110). Routledge.
- Peterson, R. L., & Skiba, R. (2000). Creating school climates that prevent school violence. *Preventing School Failure: Alternative Education for Children and Youth*, 44(3), 122-129.  
<https://doi.org/10.1080/10459880009599794>
- Petruccelli, K., Davis, J., & Berman, T. (2019). Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child Abuse and Neglect*, 97, 104127. <https://doi.org/10.1016/j.chab.2019.104127>

Phifer, L. W., & Hull, R. (2016). Helping students heal: Observations of trauma-informed practices in the schools. *School Mental Health*, 8(1), 201-205.

<https://doi.org/10.1007/s12310-016-9183-2>

Piaget, J., Grize, J. B., Szeminska, A., & Bang, V. (1977). *Epistemology and psychology of functions* (Vol. 23). Springer Science & Business Media.

Plumb, J. L., Bush, K. A., & Kersevich, S. E. (2016). Trauma-sensitive schools: An evidence-based approach. *School Social Work Journal*, 40(2), 37-60.

Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345-365.

<https://doi.org/10.1111/jcpp.12381>

Powell, F. W. (1992). *The politics of Irish Social Policy, 1600-1990*. New York: Edwin Mellen Press.

Powell, K. M., Rahm-Knigge, R. L., & Conner, B. T. (2021). Resilience Protective Factors Checklist (RPFC): buffering childhood adversity and promoting positive outcomes. *Psychological Reports*, 124(4), 1437-1461. <https://doi.org/10.1177/F0033294120950288>

Powell, R. A., & Single, H. M. (1996). Focus groups. *International Journal for Quality in Health Care*, 8(5), 499-504. <https://doi.org/10.1093/intqhc/8.5.499>

Powell, V., Riglin, L., Hammerton, G., Eyre, O., Martin, J., Anney, R., & Rice, F. (2020). What explains the link between childhood ADHD and adolescent depression? Investigating the role of peer relationships and academic attainment. *European Child and Adolescent Psychiatry*, 1-11. <https://doi.org/10.1007/s00787-019-01463-w>

- Price, C. J., & Hooven, C. (2018). Interoceptive awareness skills for emotion regulation: Theory and approach of mindful awareness in body-oriented therapy (MABT). *Frontiers in Psychology*, 9, 798. <https://doi.org/10.3389/fpsyg.2018.00798>
- Public Health England. (2014). *The link between pupil health and wellbeing and attainment A briefing for head teachers, governors and staff in education settings*. Retrieved from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/370686/HT\\_briefing\\_layoutvFINALvii.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/370686/HT_briefing_layoutvFINALvii.pdf)
- Purtle, J. (2020). Systematic review of evaluations of trauma-informed organizational interventions that include staff trainings. *Trauma, Violence, & Abuse*, 21(4), 725-740. <https://doi.org/10.1177/F1524838018791304>
- Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). UCLA ptsd index for DSM-IV. *Los Angeles, CA: UCLA Trauma Psychiatry Service*, 101998.
- Quach, D., Mano, K. E. J., & Alexander, K. (2016). A randomized controlled trial examining the effect of mindfulness meditation on working memory capacity in adolescents. *Journal of Adolescent Health*, 58(5), 489-496. <https://doi.org/10.1016/j.jadohealth.2015.09.024>
- Querstret, D., Cropley, M., & Fife-Schaw, C. (2017). Internet-based instructor-led mindfulness for work-related rumination, fatigue, and sleep: Assessing facets of mindfulness as mechanisms of change. A randomized waitlist control trial. *Journal of Occupational Health Psychology*, 22(2), 153. <https://doi.org/10.1037/ocp0000028>
- Raffaele Mendez, L. M. (2003). Predictors of suspension and negative school outcomes: A longitudinal investigation. *New Directions for Youth Development*, 2003(99), 17-33.

- Raison, C. L., & Miller, A. H. (2003). When not enough is too much: the role of insufficient glucocorticoid signalling in the pathophysiology of stress-related disorders. *American Journal of Psychiatry*, 160(9), 1554-1565. <https://doi.org/10.1176/appi.ajp.160.9.1554>
- Raison, C. L., Capuron, L., & Miller, A. H. (2006). Cytokines sing the blues: inflammation and the pathogenesis of depression. *Trends in Immunology*, 27(1), 24-31. <https://doi.org/10.1016/j.it.2005.11.006>
- Ramaswamy, V., DeSarbo, W. S., Reibstein, D. J., & Robinson, W. T. (1993). An empirical pooling approach for estimating marketing mix elasticities with PIMS data. *Marketing Science*, 12(1), 103-124. <https://doi.org/10.1287/mksc.12.1.103>
- Ramiro, L. S., Madrid, B. J., & Brown, D. W. (2010). Adverse childhood experiences (ACE) and health-risk behaviours among adults in a developing country setting. *Child Abuse and Neglect*, 34(11), 842-855. <https://doi.org/10.1016/j.chab.2010.02.012>
- Raver, C. C., & Blair, C. (2016). Neuroscientific insights: Attention, working memory, and inhibitory control. *The Future of Children*, 95-118.
- Rea Garrett, L. (2015). *The student bullying of teachers in Irish second level schools: exploring the influence of historical low state intervention in education on the development of contemporary policy responses in Ireland* (Doctoral dissertation, University College Cork).
- Reaper, L. & McShane, I. (2010) *Teachers' Workload Survey*. [Online]. Available at: [www.Tui.Ie/\\_.../Behaviour%20and%20Attitudes%20teacher%20workload.Survey](http://www.Tui.Ie/_.../Behaviour%20and%20Attitudes%20teacher%20workload.Survey). [Accessed on 13 July 2020].
- Reiser, J. E., & McCarthy, C. J. (2018). Preliminary investigation of a stress prevention and mindfulness group for teachers. *The Journal for Specialists in Group Work*, 43(1), 2-34. <https://doi.org/10.1080/01933922.2017.1338811>

- Rhen, T., & Cidlowski, J. A. (2005). Anti-inflammatory action of glucocorticoids—new mechanisms for old drugs. *New England Journal of Medicine*, 353(16), 1711-1723.  
<https://doi.org/10.1056/NEJMra050541>
- Rice, M. E., & Harris, G. T. (2005). Comparing effect sizes in follow-up studies: ROC Area, Cohen's d, and r. *Law and Human Behavior*, 29(5), 615. <https://doi.org/10.1007/s10979-005-6832-7>
- Richards, J. (2012, July). Teacher stress and coping strategies: A national snapshot. In *The Educational Forum* (Vol. 76, No. 3, pp. 299-316). Taylor & Francis Group.  
<https://doi.org/10.1080/00131725.2012.682837>
- Rigby, K. E. N. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of Adolescence*, 23(1), 57-68.  
<https://doi.org/10.1006/jado.1999.0289>
- Rinehart, R. E. (2016). Neoliberalism, Audit Culture, and Teachers: Empowering Goal Setting within Audit Culture. *Teachers and Curriculum*, 16(1), 29-35.
- Rockhill, C. M., Vander Stoep, A., McCauley, E., & Katon, W. J. (2009). Social competence and social support as mediators between comorbid depressive and conduct problems and functional outcomes in middle school children. *Journal of Adolescence*, 32(3), 535-553.  
<https://doi.org/10.1016/j.adolescence.2008.06.011>
- Roden-Foreman, J. W., Bennett, M. M., Rainey, E. E., Garrett, J. S., Powers, M. B., & Warren, A. M. (2017). Secondary traumatic stress in emergency medicine clinicians. *Cognitive Behaviour Therapy*, 46(6), 522-532.  
<https://doi.org/10.1080/16506073.2017.1315612>

- Roeser, R. W., Schonert-Reichl, K. A., Jha, A., Cullen, M., Wallace, L., Wilensky, R., & Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology, 105*(3), 787. <https://doi.org/10.1037/a0032093>
- Roeser, R. W., Skinner, E., Beers, J., & Jennings, P. A. (2012). Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives, 6*(2), 167-173. <https://doi.org/10.1111/j.1750-8606.2012.00238.x>
- Romeo, F. (1996). Corporal Punishment is Wrong! Hand Are Not For Hitting!. *Journal of Instructional Psychology, 23*(3), 228.
- Romeo, R. D. (2013). The teenage brain: The stress response and the adolescent brain. *Current Directions in Psychological Science, 22*(2), 140-145.  
<https://doi.org/10.1177/F0963721413475445>
- Rosenzweig, K. (2009). Are Today's General Education Teachers Prepared to Meet the Needs of Their Inclusive Students? NERA Conference Proceedings 2009. 10. Retrieved from:  
[https://opencommons.uconn.edu/nera\\_2009/10](https://opencommons.uconn.edu/nera_2009/10)
- Roth, R. H., Tam, S. Y., Ida, Y., Yang, J. X., & Deutch, A. Y. (1988). Stress and the Mesocorticolimbic Dopamine Systems a. *Annals of the New York Academy of Sciences, 537*(1), 138-147. <https://doi.org/10.1111/j.1749-6632.1988.tb42102.x>
- Rudolph, K. D., Hammen, C., Burge, D., Lindberg, N., Herzberg, D., & Daley, S. E. (2000). Toward an interpersonal life-stress model of depression: The developmental context of stress generation. *Development and Psychopathology, 12*(2), 215-234.  
<https://doi.org/10.1017/S0954579400002066>

- Rutter, M. (2007). Resilience, competence, and coping. *Child Abuse and Neglect*, 31, 205-209. <https://doi.org/10.1016/j.chabu.2007.02.001>
- Rutter, M., & O'Connor, T. G. (2004). Are there biological programming effects for psychological development? Findings from a study of Romanian adoptees. *Developmental Psychology*, 40(1), 81. <https://doi.org/10.1037/0012-1649.40.1.81>
- Ryan, S. (2009). Commission to inquire into child abuse. *Dublin: The Commission to Inquire into Child Abuse*.
- Sadler, K., Vizard, T., Ford, T., Marchesell, F., Pearce, N., Mandalia, D., & McManus, S. (2018). Mental health of children and young people in England, 2017.
- Salmoirago-Blotcher, E., Druker, S., Frisard, C., Dunsiger, S. I., Crawford, S., Meleo-Meyer, F., & Pbert, L. (2018). Integrating mindfulness training in school health education to promote healthy behaviors in adolescents: feasibility and preliminary effects on exercise and dietary habits. *Preventive Medicine Reports*, 9, 92-95. <https://doi.org/10.1016/j.pmedr.2018.01.009>
- Santiago, C. D., Wadsworth, M. E., & Stump, J. (2011). Socioeconomic status, neighborhood disadvantage, and poverty-related stress: Prospective effects on psychological syndromes among diverse low-income families. *Journal of Economic Psychology*, 32(2), 218-230. <https://doi.org/10.1016/j.joep.2009.10.008>
- Sapthiang, S., Van Gordon, W., & Shonin, E. (2019). Mindfulness in schools: a health promotion approach to improving adolescent mental health. *International Journal of Mental Health and Addiction*, 17(1), 112-119. <https://doi.org/10.1007/s11469-018-0001-y>
- Saxton, J. (2019). *Trauma-Informed Schools How Texas Schools and Policymakers Can Improve Student Learning and Behavior by Understanding the Brain Science of Childhood Trauma* (p. 1). Texas: Texans Care for Children.

- Schäfer, J. Ö., Naumann, E., Holmes, E. A., Tuschen-Caffier, B., & Samson, A. C. (2017). Emotion regulation strategies in depressive and anxiety symptoms in youth: A meta-analytic review. *Journal of Youth and Adolescence*, 46(2), 261-276. <https://doi.org/10.1007/s10964-016-0585-0>
- Schafer, M. (2009). The Irish welfare state: closer to Boston than Berlin?. *Socheolas Limerick Student Journal of Sociology*. Vol. 1(1), p. 106-123.
- Schauben, L. J., & Frazier, P. A. (1995). Vicarious trauma the effects on female counselors of working with sexual violence survivors. *Psychology of Women Quarterly*, 19(1), 49-64. <https://doi.org/10.1111/j.1471-6402.1995.tb00278.x>
- Schiff, M., & BarGil, B. (2004). Children with behavior problems: Improving elementary school teachers' skills to keep these children in class. *Children and Youth Services Review*, 26(2), 207-234. <https://doi.org/10.1016/j.childyouth.2004.01.009>
- Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey. *BMC Public Health*, 7(1), 30. <https://doi.org/10.1186/1471-2458-7-30>
- Schmithorst, V. J., Wilke, M., Dardzinski, B. J., & Holland, S. K. (2005). Cognitive functions correlate with white matter architecture in a normal pediatric population: a diffusion tensor MRI study. *Human Brain Mapping*, 26(2), 139-147. <https://doi.org/10.1002/hbm.20149>
- Schonert-Reichl, K. A., & Lawlor, M. S. (2010). The effects of a mindfulness-based education program on pre-and early adolescents' well-being and social and emotional competence. *Mindfulness*, 1(3), 137-151. <https://doi.org/10.1007/s12671-010-0011-8>
- Schulz, A., & Vögele, C. (2015). Interoception and stress. *Frontiers in Psychology*, 6, 993.

- Schulz, K. M., & Sisk, C. L. (2016). The organizing actions of adolescent gonadal steroid hormones on brain and behavioral development. *Neuroscience & Biobehavioral Reviews*, 70, 148-158. <https://doi.org/10.1016/j.neubiorev.2016.07.036>
- Sclove, S. L. (1987). Application of model-selection criteria to some problems in multivariate analysis. *Psychometrika*, 52(3), 333-343. <https://doi.org/10.1007/BF02294360>
- Scott, B. (2005). Getting to the Heart of the Matter: Examining the Efficacy of a Whole-School Approach to Behaviour Management. *Kairaranga*, 6(1), 29-34.
- Scott-Storey, K. (2011). Cumulative abuse: Do things add up? An evaluation of the conceptualization, operationalization, and methodological approaches in the study of the phenomenon of cumulative abuse. *Trauma, Violence, & Abuse*, 12(3), 135-150. <https://doi.org/10.1177/F1524838011404253>
- Sebastian, C., Viding, E., Williams, K. D., & Blakemore, S. J. (2010). Social brain development and the affective consequences of ostracism in adolescence. *Brain and Cognition*, 72(1), 134-145. <https://doi.org/10.1016/j.bandc.2009.06.008>
- Seery, M. D., Holman, E. A., & Silver, R. C. (2010). Whatever does not kill us: cumulative lifetime adversity, vulnerability, and resilience. *Journal of Personality and Social Psychology*, 99(6), 1025. <https://doi.org/10.1037/a0021344>
- Semple, R. J., Droutman, V., & Reid, B. A. (2017). Mindfulness goes to school: Things learned (so far) from research and real-world experiences. *Psychology in the Schools*, 54(1), 29-52. <https://doi.org/10.1002/pits.21981>
- Semple, R., & Burke, C. (2019). State of the research: Physical and mental health benefits of mindfulness-based interventions for children and adolescents. *OBM Integrative and Complementary Medicine*, 4(1), 31. <http://dx.doi.org/10.21926/obm.icm.1901001>

Shemmings, D., & Shemmings, Y. (2011). *Understanding disorganized attachment: Theory and practice for working with children and adults*. Jessica Kingsley Publishers.

Sheridan, M. A., Peverill, M., Finn, A. S., & McLaughlin, K. A. (2017). Dimensions of childhood adversity have distinct associations with neural systems underlying executive functioning. *Development and Psychopathology*, 29(5), 1777-1794.

<https://doi.org/10.1017/S0954579417001390>

Shern, D. L., Blanch, A. K., & Steverman, S. M. (2016). Toxic stress, behavioral health, and the next major era in public health. *American Journal of Orthopsychiatry*, 86(2), 109.

<https://doi.org/10.1037/ort0000120>

Shevlin, M., & Elklit, A. (2008). A latent class analysis of adolescent adverse life events based on a Danish national youth probability sample. *Nordic Journal of Psychiatry*, 62(3), 218-224. <https://doi.org/10.1080/08039480801983992>

Shin, K. M., Cho, S. M., & Kim, K. H. (2015). A validation study of the Korean-ruminative response scale in Korean adolescents. *Psychiatry Investigation*, 12(4), 508.

<https://doi.org/10.4306/Fpi.2015.12.4.508>

Shonin, E. S., Van Gordon, W., & Griffiths, M. D. (2012). The health benefits of mindfulness-based interventions for children and adolescents. *Education and Health*, 94-97.

Shonin, E., Van Gordon, W., & Griffiths, M. (2013). Mindfulness-based interventions: Towards mindful clinical integration. *Frontiers in Psychology*, 4, 194.

<https://doi.org/10.3389/fpsyg.2013.00194>

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: building a new framework for health promotion and disease prevention. *Jama*, 301(21), 2252-2259. <https://doi.org/10.1001/jama.2009.754>

Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., & Committee on Early Childhood, Adoption, and Dependent Care. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232-e246.  
<https://doi.org/10.1542/peds.2011-2663>

Shonkoff, J. P., Slopen, N., & Williams, D. R. (2021). Early childhood adversity, toxic stress, and the impacts of racism on the foundations of health. *Annual Review of Public Health*, 42, 115-134. <https://doi.org/10.1146/annurev-publhealth-090419-101940>

Shore, A. N. (2009). Relational trauma and the developing right brain an interface of psychoanalytic self-psychology and neuroscience. *Self and Systems. Ann. NY Acad. Sci*, 1159, 189-203. <https://doi.org/10.1111/j.1749-6632.2009.04474.x>

Shores, C. (Ed.). (2009). *A comprehensive RTI model: Integrating behavioral and academic interventions*. Corwin Press.

Short, R., Case, G., & McKenzie, K. (2018). The long-term impact of a whole school approach of restorative practice: the views of secondary school teachers. *Pastoral Care in Education*, 36(4), 313-324. <https://doi.org/10.1080/02643944.2018.1528625>

Sibinga, E. M., Perry-Parrish, C., Chung, S. E., Johnson, S. B., Smith, M., & Ellen, J. M. (2013). School-based mindfulness instruction for urban male youth: A small randomized controlled trial. *Preventive Medicine*, 57(6), 799-801.

<https://doi.org/10.1016/j.ypmed.2013.08.027>

Siegel, D. J. (2020). *The developing mind: How relationships and the brain interact to shape who we are*. Guilford Publications.

Silberman, D. M., Acosta, G. B., & Zubilete, M. A. Z. (2016). Long-term effects of early life stress exposure: Role of epigenetic mechanisms. *Pharmacological Research, 109*, 64-73.  
<https://doi.org/10.1016/j.phrs.2015.12.033>

Simmie, G. M. (2012). The Pied Piper of Neo Liberalism Calls the Tune in the Republic of Ireland: An Analysis of Education Policy Text from 2000-2012. *Journal for Critical Education Policy Studies (JCEPS), 10*(2).

Simmie, G. M. (2021). The Pied Piper of Neo Liberalism Continues to Call the Tune in the Republic of Ireland: A Critical Discourse Analysis of Education Policy Texts from 2012 to 2021. *Journal for Critical Education Policy Studies, 19*(2).

Sitler, H. C. (2009). Teaching with awareness: The hidden effects of trauma on learning. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 82*(3), 119-124.

<https://doi.org/10.3200/TCHS.82.3.119-124>

Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and teacher education, 26*(4), 1059-1069.

<https://doi.org/10.1016/j.tate.2009.11.001>

Skerritt, C., & Salokangas, M. (2020). Patterns and paths towards privatisation in Ireland. *Journal of Educational Administration and History, 52*(1), 84-99.

<https://doi.org/10.1080/00220620.2019.1689104>

Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads: From zero tolerance to early response. *Exceptional Children, 66*(3), 335-346.

<https://doi.org/10.1177/F001440290006600305>

- Slopen, N., Kubzansky, L. D., McLaughlin, K. A., & Koenen, K. C. (2013). Childhood adversity and inflammatory processes in youth: a prospective study. *Psychoneuroendocrinology*, 38(2), 188-200. <https://doi.org/10.1016/j.psyneuen.2012.05.013>
- Smith, P. K., & Monks, C. P. (2008). Concepts of bullying: Developmental and cultural aspects. *International Journal of Adolescent Medicine and Health*, 20(2), 101-112. <https://doi.org/10.1515/IJAMH.2008.20.2.101>
- Somers, J. A., Borelli, J. L., & Hilt, L. M. (2020). Depressive symptoms, rumination, and emotion reactivity among youth: moderation by gender. *Journal of Clinical Child & Adolescent Psychology*, 49(1), 106-117. <https://doi.org/10.1080/15374416.2018.1466304>
- Spinhoven, P., Elzinga, B. M., Hovens, J. G., Roelofs, K., Zitman, F. G., van Oppen, P., & Penninx, B. W. (2010). The specificity of childhood adversities and negative life events across the life span to anxiety and depressive disorders. *Journal of Affective Disorders*, 126(1-2), 103-112. <https://doi.org/10.1016/j.jad.2010.02.132>
- Spinrad, T. L., Eisenberg, N., Cumberland, A., Fabes, R. A., Valiente, C., Shepard, S. A., & Guthrie, I. K. (2006). Relation of emotion-related regulation to children's social competence: a longitudinal study. *Emotion*, 6(3), 498. <https://doi.org/10.1037/1528-3542.6.3.498>
- Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: the GAD-7. *Archives of Internal Medicine*, 166(10), 1092-1097. <https://doi.org/10.1001/archinte.166.10.1092>
- Sprang, G., Craig, C., & Clark, J. (2011). Secondary traumatic stress and burnout in child welfare workers: a comparative analysis of occupational distress across professional groups. *Child Welfare*, 90(6).

- Spratt, E. G., Friedenberg, S. L., Swenson, C. C., LaRosa, A., De Bellis, M. D., Macias, M. M., & Brady, K. T. (2012). The effects of early neglect on cognitive, language, and behavioral functioning in childhood. *Psychology (Irvine, Calif.)*, 3(2), 175.  
<https://doi.org/10.4236/Fpsych.2012.32026>
- Stamm, B. (2010). The concise manual for the professional quality of life scale. Pocatello, ID: ProQOL.org.
- Steiner, E. I. (2016). *Trauma-informed practice: A self-study in early childhood special education* (Doctoral Dissertation, Mills College). Retrieved from ProQuest 10155716
- Stewart, D., McWhirter, J., Rowe, F., Stewart, D., & Patterson, C. (2007). Promoting school connectedness through whole school approaches. *Health Education*, 109(1), 69.
- Stewart, E. A. (2003). School social bonds, school climate, and school misbehavior: A multilevel analysis. *Justice Quarterly*, 20(3), 575-604.  
<https://doi.org/10.1080/07418820300095621>
- Straus, M. A., & Yodanis, C. L. (1996). Corporal punishment in adolescence and physical assaults on spouses in later life: What accounts for the link?. *Journal of Marriage and the Family*, 825-841. <https://doi.org/10.2307/353973>
- Strohschein, L. (2012). Parental divorce and child mental health: Accounting for predisruption differences. *Journal of Divorce & Remarriage*, 53(6), 489-502.  
<https://doi.org/10.1080/10502556.2012.682903>
- Substance Abuse and Mental Health Services Administration. (2014). *SAMHSA's concept of trauma and guidance for a trauma informed approach*. HHS publication no. (SMA) 14-4884. Rockville: Substance Abuse and Mental Health Services Administration

- Sullivan, A. M., Johnson, B., Owens, L., & Conway, R. (2014). Punish them or engage them? Teachers' views of unproductive student behaviours in the classroom. *Australian Journal of Teacher Education*, 39(6), 4. <https://doi.org/10.14221/ajte.2014v39n6.6>
- Tamnes, C. K., Østby, Y., Fjell, A. M., Westlye, L. T., Due-Tønnessen, P., & Walhovd, K. B. (2010). Brain maturation in adolescence and young adulthood: regional age-related changes in cortical thickness and white matter volume and microstructure. *Cerebral cortex*, 20(3), 534-548. <https://doi.org/10.1093/cercor/bhp118>
- Tamnes, C. K., Walhovd, K. B., Grydeland, H., Holland, D., Østby, Y., Dale, A. M., & Fjell, A. M. (2013). Longitudinal working memory development is related to structural maturation of frontal and parietal cortices. *Journal of Cognitive Neuroscience*, 25(10), 1611-1623. [https://doi.org/10.1162/jocn\\_a\\_00434](https://doi.org/10.1162/jocn_a_00434)
- Tangney, J. P., Wagner, P. E., Hill-Barlow, D., Marschall, D. E., & Gramzow, R. (1996). Relation of shame and guilt to constructive versus destructive responses to anger across the lifespan. *Journal of Personality and Social Psychology*, 70(4), 797. <https://doi.org/10.1037/0022-3514.70.4.797>
- Tarullo, A. R., & Gunnar, M. R. (2006). Child maltreatment and the developing HPA axis. *Hormones and Behavior*, 50(4), 632-639. <https://doi.org/10.1016/j.yhbeh.2006.06.010>
- Taylor, S. E., Way, B. M., & Seeman, T. E. (2011). Early adversity and adult health outcomes. *Development and Psychopathology*, 23(3), 939-954. <https://doi.org/10.1017/S0954579411000411>
- Teachers' Union of Ireland. (2006). *Findings of TUI Survey on Second Level Classroom Disruption*. [Online]. Available at: <http://www.tui.ie/tuireports/default.180.html> [Accessed on 27 March 2020].

Teachers' Union of Ireland. (2012). *Impact of Budget Cuts in Education*. [Online]. Available at: [www.tui.ie/\\_fileupload/survey%202012.pdf](http://www.tui.ie/_fileupload/survey%202012.pdf) [Accessed on 19 June 2020].

Tebes, J. K., Champine, R. B., Matlin, S. L., & Strambler, M. J. (2019). Population health and trauma-informed practice: implications for programs, systems, and policies. *American Journal of Community Psychology*, 64(3-4), 494-508. <https://doi.org/10.1002/ajcp.12382>

Teicher, M. H., Anderson, C. M., Ohashi, K., Khan, A., McGreenery, C. E., Bolger, E. A., & Vitaliano, G. D. (2018). Differential effects of childhood neglect and abuse during sensitive exposure periods on male and female hippocampus. *Neuroimage*, 169, 443-452. <https://doi.org/10.1016/j.neuroimage.2017.12.055>

Teicher, M. H., Dumont, N. L., Ito, Y., Vaituzis, C., Giedd, J. N., & Andersen, S. L. (2004). Childhood neglect is associated with reduced corpus callosum area. *Biological Psychiatry*, 56(2), 80-85. <https://doi.org/10.1016/j.biopsych.2004.03.016>

Tejerina-Arreal, M., Parker, C., Paget, A., Henley, W., Logan, S., Emond, A., & Ford, T. (2020). Child and adolescent mental health trajectories in relation to exclusion from school from the Avon Longitudinal Study of Parents and Children. *Child and Adolescent Mental Health*, 25(4), 217-223. <https://doi.org/10.1111/camh.12367>

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, 5(1), 1. <https://doi.org/10.1186/1477-7525-5-63>

The Ulster Unionist Party, 2016. Mental Health and Wellbeing. Ulster Unionist Party, Belfast. Retrieved August 10th, 2021, from <<https://uup.org/assets/policies/mental/health/paper.pdf>>.

- Thomas, M. S., Crosby, S., & Vanderhaar, J. (2019). Trauma-informed practices in schools across two decades: An interdisciplinary review of research. *Review of Research in Education*, 43(1), 422-452. <https://doi.org/10.3102/F0091732X18821123>
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. *Monographs of the Society for Research in Child Development*, 59(2-3), 25-52. <https://doi.org/10.2307/1166137>
- Tidemalm, D., Runeson, B., Waern, M., Frisell, T., Carlström, E., Lichtenstein, P., & Långström, N. (2011). Familial clustering of suicide risk: a total population study of 11.4 million individuals. *Psychological Medicine*, 41(12), 2527-2534. <https://doi.org/10.1017/S0033291711000833>
- Towl, P. (2007). *Best Practice Behaviour: A View from the Literature*. [Online]. Available at: [http://ppt.a.org.nz/index.php/resources/publications/doc\\_download/28-best-practice-behaviour-management-a-view-from-the-literature](http://ppt.a.org.nz/index.php/resources/publications/doc_download/28-best-practice-behaviour-management-a-view-from-the-literature) [Accessed on 17 June 2020].
- Tracy, M., Salo, M., Slopen, N., Udo, T., & Appleton, A. A. (2019). Trajectories of childhood adversity and the risk of depression in young adulthood: Results from the Avon Longitudinal Study of Parents and Children. *Depression and Anxiety*, 36(7), 596-606. <https://doi.org/10.1002/da.22887>
- Treacy, M., & Nohilly, M. (2020). Teacher education and child protection: Complying with requirements or putting children first? *Children and Youth Services Review*, 113, 105009. <https://doi.org/10.1016/j.chillyouth.2020.105009>
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, 27(3), 247-259. <https://doi.org/10.1023/A:1023910315561>

- Troman, G., Jeffrey, B., & Ragg, A. (2007). Creativity and performativity policies in primary school cultures. *Journal of Education Policy*, 22(5), 549-572.  
<https://doi.org/10.1080/02680930701541741>
- Tsigos, C., & Chrousos, G. P. (2002). Hypothalamic-pituitary-adrenal axis, neuroendocrine factors and stress. *Journal of Psychosomatic Research*, 53(4), 865-871.  
[https://doi.org/10.1016/S0022-3999\(02\)00429-4](https://doi.org/10.1016/S0022-3999(02)00429-4)
- Türküm, A. S. (2011). Social supports preferred by the teachers when facing school violence. *Children and Youth Services Review*, 33(5), 644-650.  
<https://doi.org/10.1016/j.childyouth.2010.11.005>
- Turner, H. A., & Finkelhor, D. (1996). Corporal punishment as a stressor among youth. *Journal of Marriage and the Family*, 155-166. <https://doi.org/10.2307/353384>
- Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology*.  
<https://doi.org/10.1037/abn0000410>
- Ulmer-Yaniv, A., Djalovski, A., Priel, A., Zagoory-Sharon, O., & Feldman, R. (2018). Maternal depression alters stress and immune biomarkers in mother and child. *Depression and Anxiety*, 35(12), 1145-1157. <https://doi.org/10.1002/da.22818>
- Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of Anxiety Disorders*, 17(5), 561-571.  
[https://doi.org/10.1016/S0887-6185\(02\)00228-1](https://doi.org/10.1016/S0887-6185(02)00228-1)
- Van Dam, N. T., van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., & Fox, K. C. (2018). Mind the hype: A critical evaluation and prescriptive agenda for research

- on mindfulness and meditation. *Perspectives on Psychological Science*, 13(1), 36-61.  
<https://doi.org/10.1177/F1745691617709589>
- Van Den Dries, L., Juffer, F., Van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2010). Infants' physical and cognitive development after international adoption from foster care or institutions in China. *Journal of Developmental & Behavioral Pediatrics*, 31(2), 144-150. <https://doi.org/10.1097/DBP.0b013e3181cdaa3a>
- Vanderwert, R. E., Marshall, P. J., Nelson III, C. A., Zeanah, C. H., & Fox, N. A. (2010). Timing of intervention affects brain electrical activity in children exposed to severe psychosocial neglect. *PLoS One*, 5(7), e11415. <https://doi.org/10.1371/journal.pone.0011415>
- Verger, A., Parcerisa, L., & Fontdevila, C. (2019). The growth and spread of large-scale assessments and test-based accountabilities: A political sociology of global education reforms. *Educational Review*, 71(1), 5-30. <https://doi.org/10.1080/00131911.2019.1522045>
- Vermunt, J. K. (2010). Latent class modeling with covariates: Two improved three-step approaches. *Political Analysis*, 18(4), 450-469. <https://doi.org/10.1093/pan/mpq025>
- Vernon-Feagans, L., Willoughby, M., & Garrett-Peters, P. (2016). Predictors of behavioral regulation in kindergarten: Household chaos, parenting, and early executive functions. *Developmental Psychology*, 52(3), 430. <https://doi.org/10.1037/dev0000087>
- von der Embse, N., Rutherford, L., Mankin, A., & Jenkins, A. (2019). Demonstration of a trauma-informed assessment to intervention model in a large urban school district. *School Mental Health*, 11(2), 276-289. <https://doi.org/10.1007/s12310-018-9294-z>
- Wagaman, M. A., Geiger, J. M., Shockley, C., & Segal, E. A. (2015). The role of empathy in burnout, compassion satisfaction, and secondary traumatic stress among social workers. *Social Work*, 60(3), 201-209. <https://doi.org/10.1093/sw/swv014>

Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional and Behavioral Disorders*, 4(4), 194-209.

<https://doi.org/10.1177/F106342669600400401>

Wall, C. R. G. (2021). Relationship over reproach: Fostering resilience by embracing a trauma-informed approach to elementary education. *Journal of Aggression, Maltreatment & Trauma*, 30(1), 118-137. <https://doi.org/10.1080/10926771.2020.1737292>

Wall, L., Higgins, D., & Hunter, C. (2016). *Trauma-informed care in child/family welfare services*. Australian Institute of Family Studies, Child Family Community Australia.

Walsh, K., Laskey, L., McInnes, E., Farrell, A., Mathews, B., & Briggs, F. (2011). Locating child protection in preservice teacher education. *Australian Journal of Teacher Education (Online)*, 36(7), 31-58.

Wang, J., & Wang, X. (2019). *Structural Equation Modeling: Applications using Mplus*. John Wiley and Sons.

Weare, K. (2000). *Promoting mental, emotional, and social health: A whole school approach*. Psychology Press. <https://doi.org/10.4324/9780203048610>

Weare, K. (2010). Mental health and social and emotional learning: Evidence, principles, tensions, balances. *Advances in School Mental Health Promotion*, 3(1), 5-17.  
<https://doi.org/10.1080/1754730X.2010.9715670>

Weare, K. (2015). What works in promoting social and emotional well-being and responding to mental health problems in schools. *London: National Children's Bureau*.

Weare, K. (2015). What works in promoting social and emotional well-being and responding to mental health problems in schools? Advice for Schools and Framework Document

Professor Katherine Weare. Retrieved from;

[https://www.ncb.org.uk/sites/default/files/uploads/files/ncb\\_framework\\_for\\_promoting\\_well-being\\_and\\_responding\\_to\\_mental\\_health\\_in\\_schools\\_0.pdf](https://www.ncb.org.uk/sites/default/files/uploads/files/ncb_framework_for_promoting_well-being_and_responding_to_mental_health_in_schools_0.pdf).

Weare, K., & Nind, M. (2011). Mental health promotion and problem prevention in schools: what does the evidence say? *Health Promotion International*, 26(suppl\_1), i29-i69.

<https://doi.org/10.1093/heapro/dar075>

Webb, C., Bywaters, P., Scourfield, J., McCartan, C., Bunting, L., Davidson, G., & Morris, K. (2020). Untangling child welfare inequalities and the ‘inverse intervention law’ in England. *Children and Youth Services Review*, 111, 104849.

<https://doi.org/10.1016/j.childyouth.2020.104849>

Weissman, D. G., Bitran, D., Miller, A. B., Schaefer, J. D., Sheridan, M. A., & McLaughlin, K. A. (2019). Difficulties with emotion regulation as a transdiagnostic mechanism linking child maltreatment with the emergence of psychopathology. *Development and Psychopathology*, 11(3), 899-915. <https://doi.org/10.1017/S0954579419000348>

Weissman, D. G., Nook, E. C., Dews, A. A., Miller, A. B., Lambert, H. K., Sasse, S. F., & McLaughlin, K. A. (2020). Low emotional awareness as a transdiagnostic mechanism underlying psychopathology in adolescence. *Clinical Psychological Science*, 8(6), 971-988.

<https://doi.org/10.1177/F2167702620923649>

Werker, J. F., & Hensch, T. K. (2015). Critical periods in speech perception: new directions. *Annual Review of Psychology*, 66, 173-196.

West, J., Denton, K., & Reaney, L. M. (2000). The Kindergarten Year: Findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99. NCES 2001-023. *National Center for Education Statistics*.

- West, S. D., Day, A. G., Somers, C. L., & Baroni, B. A. (2014). Student perspectives on how trauma experiences manifest in the classroom: Engaging court-involved youth in the development of a trauma-informed teaching curriculum. *Children and Youth Services Review*, 38, 58-65. <https://doi.org/10.1016/j.childyouth.2014.01.013>
- Wethington, E. (2000). Contagion of stress. *Advances in Group Processes*, 17(August), 229-53. [https://doi.org/10.1016/S0882-6145\(00\)17010-9](https://doi.org/10.1016/S0882-6145(00)17010-9)
- White, D., Leach, C., Sims, R., Atkinson, M., & Cottrell, D. (1999). Validation of the Hospital Anxiety and Depression Scale for use with adolescents. *The British Journal of Psychiatry*, 175(5), 452-454. <https://doi.org/10.1192/bjp.175.5.452>
- Wickham, I. (2010). *A comparative evaluation to determine the effectiveness of the behaviour support classrooms and other positive behaviour management interventions in designated disadvantaged schools* (Doctoral dissertation, Dublin City University).
- Wickham, S., Anwar, E., Barr, B., Law, C., & Taylor-Robinson, D. (2016). Poverty and child health in the UK: using evidence for action. *Archives of Disease in Childhood*, 101(8), 759-766. <http://dx.doi.org/10.1136/archdischild-2014-306746>
- Williams, H., & Daniels, A. (2003). A systemic approach to emotional factors in dealing with behaviour difficulties: The Birmingham Framework for Intervention. In *Working with Emotions* (pp. 169-180). Routledge.
- Wilson, M. O. (2019). *Teachers' Awareness of Student Trauma and Their Perceived Readiness for Managing Challenging Student Behaviors* (Doctoral Dissertation, Southern Connecticut State University).
- Wilson, R. A., & Regardie, I. (1997). *Prometheus rising*. New Falcon Publications.

- Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology*, 21(2), 152-169. <https://doi.org/10.1017/S0959259810000420>
- Winfrey, O., & Perry, B. D. (2021). *What Happened to You?: Conversations on Trauma, Resilience, and Healing*. Flatiron Books.
- Winninghoff, A. (2020). Trauma by numbers: Warnings against the use of ACE scores in trauma-informed schools. *Occasional Paper Series*, 2020(43), 4.
- Wolpow, R., Johnson, M. M., Hertel, R., & Kincaid, S. O. (2009). *The Heart of Learning and Teaching: Compassion, Resiliency, and Academic Success*. Office of Superintendent of Public Instruction (OSPI) Compassionate Schools.
- Woodward, L. J., & Fergusson, D. M. (2000). Childhood peer relationship problems and later risks of educational under-achievement and unemployment. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, 41(2), 191-201.  
<https://doi.org/10.1017/S002196309900520X>
- Xian, H., Shah, K. R., Potenza, M. N., Volberg, R., Chantrujikapong, S., True, W. R., & Eisen, S. A. (2008). A latent class analysis of DSM-III-R pathological gambling criteria in middle-aged men: Association with psychiatric disorders. *Journal of Addiction Medicine*, 2(2), 85. <https://doi.org/10.1097/FADM.0b013e31816d699f>
- Yadollahi, M., Razmjooei, A., Jamali, K., Niakan, M. H., & Ghahramani, Z. (2016). The relationship between professional quality of life (ProQoL) and general health in Rajaee Trauma Hospital staff of Shiraz, Iran. *Shiraz E-Medical Journal*, 17(9).  
<https://dx.doi.org/10.17795/semj39253>
- Yao, S., Zhang, C., Zhu, X., Jing, X., McWhinnie, C. M., & Abela, J. R. (2009). Measuring adolescent psychopathology: psychometric properties of the self-report strengths and

difficulties questionnaire in a sample of Chinese adolescents. *Journal of Adolescent Health*, 45(1), 55-62. <https://doi.org/10.1016/j.jadohealth.2008.11.006>

Yarcheski, A., & Mahon, N. E. (1999). The moderator-mediator role of social support in early adolescents. *Western Journal of Nursing Research*, 21(5), 685-698.  
<https://doi.org/10.1177/F01939459922044126>

YouGov (2013) Children's Worries. Big Lottery Fund Survey Results. Retrieved on 10th March 2020 from:

[http://d25d2506fb94s.cloudfront.net/cumulus\\_uploads/document/s8rifrbcv4/YouGov-Survey-BigLottery-Fund-Children%27s-Worries-131107.pdf](http://d25d2506fb94s.cloudfront.net/cumulus_uploads/document/s8rifrbcv4/YouGov-Survey-BigLottery-Fund-Children%27s-Worries-131107.pdf)

Young, K. S., Sandman, C. F., & Craske, M. G. (2019). Positive and negative emotion regulation in adolescence: links to anxiety and depression. *Brain Sciences*, 9(4), 76.

<https://doi.org/10.3390/brainsci9040076>

Zarate, K., Maggin, D. M., & Passmore, A. (2019). Meta-analysis of mindfulness training on teacher well-being. *Psychology in the Schools*, 56(10), 1700-1715.

<https://doi.org/10.1002/pits.22308>

Zelazo, P. D., & Carlson, S. M. (2012). Hot and cool executive function in childhood and adolescence: Development and plasticity. *Child Development Perspectives*, 6(4), 354-360.

<https://doi.org/10.1111/j.1750-8606.2012.00246.x>

Zelazo, P. D., & Müller, U. (2011). Executive function in typical and atypical development. In U. Goswami (Ed.), *The Wiley-Blackwell handbook of childhood cognitive development* (pp. 574–603). Wiley-Blackwell.

Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools—a systematic review and meta-analysis. *Frontiers in Psychology*, 5, 603.  
<https://doi.org/10.3389/fpsyg.2014.00603>

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67(6), 361-370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>

Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review*, 34(12), 2295-2303.  
<https://doi.org/10.1016/j.chillyouth.2012.08.009>

Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2015). Mindfulness interventions with youth: A meta-analysis. *Mindfulness*, 6(2), 290-302. <https://doi.org/10.1007/s12671-013-0260-4>

## Appendices

## Appendix 1. Permission to Use Secondary Data

Wed 01/05/2019 11:02 AM

Dear Justin,

### **RE: Permission to Access an existing Child and Adolescent Mental Health Data set, Called the CASE Survey (2014).**

This data was collected as part of an earlier study which intended to explore Prevalence and Predictors of Self Harm in 11-18 year olds.

The same CASE survey was also used in Europe, England, Scotland, Ireland and Wales. This data set also contains information about other childhood adversities, and other coping styles, of which will be relevant to your PhD studies (your first 1-4 chapters). This data has not been explored in this way before now.

I hold the Intellectual Property (IP) rights for this data set, and give you full permission to use for your PhD studies, upon receiving ethical approval from the Psychology FC.  
I can confirm also that parental consent and pupil assent was given to use this anonymous data for research purposes. There were no identifiers held within the data set.

Kind regards,

Karen

Dr Karen Kirby, PhD, MSc, BSc, C.Psychol, AFBPsS, SFHEA,  
Senior Lecturer of Psychology,  
HCPC Registered Counselling & Health Psychologist,  
School of Psychology,  
Ulster University.

#### **Research Member of:**

Psychology Research Institute:

<https://www.ulster.ac.uk/research/institutes/psychology>

**Address:** Room H245, Cromore Road, Coleraine, Co. Derry-Londonderry, BT52 1SA, Coleraine campus.

**Telephone** +44 28 7012 3654

**Email** k.kirby@ulster.ac.uk

## Appendix 2. RG1a Application

UNIVERSITY OF ULSTER

RESEARCH GOVERNANCE

### RG1a APPLICATION TO UNDERTAKE RESEARCH ON HUMAN SUBJECTS

**PLEASE REFER TO THE NOTES OF GUIDANCE BEFORE COMPLETING THIS FORM.**  
 (Available from the Research Governance website at  
<http://www.ulster.ac.uk/research/rg/>)

All sections of this form must be completed (use minimum font size 11). If the form is altered in any way it will be returned unconsidered by the Committee.

This form should be used for research in categories A, B and D

Do not use this form for research being conducted in collaboration with the NHS/HPSS (category C).

#### SECTION A

Chief Investigator	Dr. Karen Kirby	
Title of Project	<i>Childhood Adversity Profiles and Adolescent Psychopathology among a Sample of Post-Primary School Children in Northern Ireland</i>	
Student and course (if applicable)	Mr. Justin MacLochlainn (PhD Researcher)	
Additional Investigators	Dr. John Mallett	Dr. Paula McFadden

#### Declaration - Chief Investigator:

I confirm that

- this project meets the definition for research in category\* (*please insert*)
- this project is viable and is of research or educational merit;
- all risks and ethical and procedural implications have been considered;
- the project will be conducted at all times in compliance with the research description/protocol and in accordance with the University's requirements on recording and reporting;
- this application has not been submitted to and rejected by another committee; and
- Permission has been granted to use all copyright materials including questionnaires and similar instruments

Signed:

Date: 18<sup>th</sup> April 2019

**Once complete, this application and all associated materials must be submitted for peer review**

**\*In addition, you should complete form RG1d for all category D research and form RG1e for both category B and D research**

### Peer Review

- *Those conducting peer review should complete form RG2 and attach it to this form (RG1). RG1, RG2 and all associated materials should then be returned to the Chief Investigator.*
- *Depending upon the outcome of peer review, the Chief Investigator should arrange to submit to the Filter Committee, resubmit the application for further review or consider a new or substantially changed project. The application must not be submitted to the Filter Committee until the peer review process has been completed (except as permitted below)*

### Filter Committee

- *The application must be considered by the Filter Committee in accordance with the requirements of the University*
- *The Filter Committee should complete form RG3 and write to the Chief Investigator indicating the outcome of its review*
- *Depending upon the outcome of the Filter Committee review, the Chief Investigator should arrange to proceed with the research OR submit to the University's Research Ethics Committee OR resubmit the application for further review OR consider a new or substantially changed project*

## SECTION B

### 1. Where will the research be undertaken?

The research is on secondary data that is currently available at Ulster University. The data was collected from 4 post primary schools in NI in 2013/2014. IP rights are held with Dr Karen Kirby (CI) who has given permission to use this data as part of a secondary data analysis. The outcomes have already been collected in a previous study so ethics has already been considered for them. REC reference: 12/0322

### 2. a. What prior approval/funding has been sought or obtained to conduct this research? Please also provide the UU cost centre number if known

Not Applicable

### b. Please indicate any commercial interest in/sponsorship of the study

Not Applicable

### 3. Duration of the Project

Start: 02.06.2019

End: 20.12.2019

Duration: 7 months

### 4. Background to and reason(s) for the Project

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

The current study was designed to determine a prevalence rate of adolescent exposure to childhood adversity within a sample of post-primary schools in Northern Ireland. Additionally, the study seeks to identify latent classes or profiles of adolescents with similar exposures of childhood adversities and attempt to understand in what way these profiles impact on adolescent psychopathologic responses. Furthermore, this study will investigate the relationship between, area level deprivation (as denoted by an index of multiple deprivation), childhood adversity profiles, and adolescent psychopathology. As far as the literature suggests, the current study is unique insofar as it being based on self-reported exposure to adversity data in an 11–18 year old cohort in Northern Ireland.

An existing available data set has been sourced, where permission has been given to use for secondary data purposes to help address the above research questions.

### 5. Aims of the Project

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

This study has been proposed to achieve the following five aims.

(1) to examine the nature and frequency of self-reported stressful and traumatic events within an adolescent cohort in Northern Ireland, (2) to assess poly-victimisation across 15 stressful and traumatic events, (3) to utilise latent class analysis to determine whether childhood adversity profiles of reported stressful and traumatic events exist, (4) to assess the associations between childhood adversity profiles and subsequent psychopathologic responses, (5) to determine the role of area deprivation and its impact on the relationship between childhood adversity profiles and adolescent psychopathology.

### 6. Procedures to be used

#### a. Methods

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

**Step 1:** The study proposes to use an existing cross-sectional data set conducted with n= 864 adolescents recruited from four post-primary schools in Derry, Northern Ireland. This existing data set has been collected in 2013-2014.

**Step 2:** Collated data previously entered into IBM SPSS V.23 statistical software/MPLUS will be analysed.

**Step 3:** Latent class analysis (LCA) on the 15 stressful event variables will be performed using Mplus 8.2. LCA is a statistical method that is used to categorise underlying homogenous classes or groups from categorical multivariate data

**Step 4:** Linear regression will be used to assess the association between predicted profiles of stress exposure and area deprivation, and to broad psychopathology

Logistic Regression will be used

**Outcome variable:** Outcome categories- 3 levels: (1) Broad Psychopathology (2) Internalising problems (3) Externalising problems

**Predictor Variables:** Childhood adversity Profiles (3) Area deprivation (2), Age, Gender,

## 7. Subjects:

### a. How many subjects will be recruited to the study (by group if appropriate)?

No New data	
Existing data- 864 adolescents	

### b. Will any of the subjects be from the following vulnerable groups -

	YES	NO
Children under 18	NA	
Adults with learning or other disabilities	NA	
Very elderly people	NA	
Healthy volunteers who have a dependent or subordinate relationship to investigators	NA	
Other vulnerable groups	NA	

If YES to any of the above, please specify and justify their inclusion

Study already received ethical approval by Ulster University REC. CI- Dr Karen Kirby. Data already collected and permission given at the time from parents and pupils themselves to use the anonymised data for research purposes.

### c. Inclusion and exclusion criteria

Please indicate, with reasons, the inclusion criteria for the project

N/A Data already collected

Please indicate, with reasons, any exclusion criteria for the project

N/A Data already collected

### d. Will any inducements be offered? If 'Yes', please describe

N/A Data already collected

None were offered.

**e. Please describe how and where recruitment will take place**

N/A Data already collected

**8. Ethical implications of the research**

Please provide an assessment of the ethical implications of the project

The existing adolescent data set is the intellectual property of Ulster University where the chief investigator (Dr Karen Kirby) has given permission to access this anonymised data. Furthermore, all adolescents (and their parent/guardian) who consented to this research at the start signed a consent form agreeing to any research which explores the variables in relation to mental health. The investigators will not be able to identify the adolescents detailed within the secondary dataset. These are all anonymised.

**9. Could the research identify or indicate the existence of any undetected healthcare concern?**

Yes  No  NO

If Yes, please indicate what might be detected and explain what action will be taken (e.g. inform subject's GP)

Not Applicable

**10. Risk Assessment \*\***

Please indicate any risks to subjects or investigators associated with the project

It is unlikely as the data has already been collected from a previous ethically approved study at Ulster UREC.

**\*\*If you wish, you can use form RG1c – Risk Assessment Record (available from the Research Governance website) to help you assess any risks involved**

**11. Precautions**

Please describe precautions to be taken to address the above

N/A

**12. Consent form**

**It is assumed that as this study is being conducted on human subjects, an information sheet and associated consent form will be provided. A copy of the information sheet and form must be attached to this application. See Notes of Guidance.**

**If a consent form is not to be used, please provide a justification:**

N/A

**13. Care of personal information**

Please describe the measures that will be taken to ensure that subjects' personal data/information will be stored appropriately and made available only to those named as investigators associated with the project.

This information was stored in a secure password protected database at the University of Ulster premises.

The University does not hold any personal or identifiable information on any of the participants included in the previous study.

**14. Copyright**

Has permission been granted to use all copyright materials including questionnaires and similar instruments?

Yes  Y  No

If No, please provide the reason

Non Applicable

**Once you have completed this form you should also complete form RG1d for all category D research and form RG1e for both category B and D research**

### Appendix 3. RG3

#### UNIVERSITY OF ULSTER GOVERNANCE

#### RESEARCH

#### **RG3 Filter Committee Report Form**

Project Title

Childhood Adversity Profiles and Adolescent Psychopathology among a Sample of Post-Primary School Children in Northern Ireland

Chief Investigator

Dr Karen Kirby

Filter Committee

Psychology

This form should be completed by Filter Committees for all research project applications in categories A to D (\*for categories A, B, and D the University's own application form – RG1a and RG1b – will have been submitted; for category C, the national, or ORECNI, application form will have been submitted).

Where substantial changes are required the Filter Committee should return an application to the Chief Investigator for clarification/amendment; the Filter Committee can reject an application if it is thought to be unethical, inappropriate, incomplete or not valid/viable.

**Only when satisfied that its requirements have been met in full and any amendments are complete, the Filter Committee should make one of the following recommendations:**

The research proposal is complete, of an appropriate standard and is in

- category A data and the study may proceed\* (secondary data only)

- category B and the study must be submitted to the University's Research Ethics

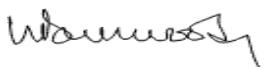
Committee\*\* Please indicate briefly the reason(s) for this categorisation

--

- category C and the study must be submitted to ORECNI along with the necessary supporting materials from the Research Governance Section\*\*\*

- category D and the study must be submitted to the University's Research Ethics Committee\*\*

Signed:



Date: 28.05.19

**\*The application form and this assessment should now be returned to the Chief Investigator. The Filter Committee should retain a copy of the complete set of forms.**

**\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can submit the application to the UUREC via the Research Governance section. The Filter Committee should retain a copy of the complete set of forms for their own records.**

**\*\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can prepare for application to a NRES/ORECNI committee. The Filter Committee should retain a copy of the complete set of forms for their own records.**

**For all categories, details of the application and review outcome should be minuted using the agreed format and forwarded to the Research Governance section**

**Please complete the following**

The application should be accompanied by an appropriate and favourable Peer Review Report Form (if not, the Filter Committee should be prepared to address this as part of its review). Please comment on the peer review (include whether or not there is evidence that the comments of the peer reviewers have been addressed).

The Filter Committee has favourably reviewed the ethical submission

Please provide an assessment of all component parts of the application, including questionnaires, interview schedules or outline areas for group discussion/unstructured interviews.

Study makes use of secondary data only

Please comment on the consent form and information sheet, in particular the level of language and accessibility.

N/A

Please comment on the qualifications of the Chief and other Investigators.

Dr Kirby is a counselling / health psychologist and a member of the Psychology RI, Justin MacLochlainn is a student on the MSc in Applied Psychology

Please comment on the risks present in conducting the study and whether or not they have been addressed.

N/A

Please indicate whether or not the ethical issues have been identified and addressed.

Ulster holds the secondary database, the CI has obtained agreement from participants for their anonymised data to be used in subsequent studies

Please comment on whether or not the subjects are appropriate to the study and the inclusion/exclusion criteria have been identified and listed

N/A

## Appendix 4. Stressful Events Checklist

### 2.3 Stressful Events and Problems

15. Have you experienced any of the following life events and if so, when?  
 \*Tick-box Question\*

a) Have you had problems keeping up with schoolwork?	Yes, in the past 12 months	Yes, more than a year ago	No
b) Have you had difficulty in making or keeping friends?	Yes, in the past 12 months	Yes, more than a year ago	No
c) Have you had any serious arguments or fights with friends?	Yes, in the past 12 months	Yes, more than a year ago	No
d) Have you had any serious problems with a boyfriend or girlfriend?	Yes, in the past 12 months	Yes, more than a year ago	No
e) Have you been bullied at school?	Yes, in the past 12 months	Yes, more than a year ago	No
f) Have your parents separated or divorced?	Yes, in the past 12 months	Yes, more than a year ago	No
g) Have you had any serious arguments or fights with either or both of your parents?	Yes, in the past 12 months	Yes, more than a year ago	No
h) Have your parents had any serious arguments or fights?	Yes, in the past 12 months	Yes, more than a year ago	No
i) Have you or any of your family had a serious illness or accident?	Yes, in the past 12 months	Yes, more than a year ago	No
j) Have any close friends had a serious illness or accident?	Yes, in the past 12 months	Yes, more than a year ago	No
k) Have you been seriously physically abused?	Yes, in the past 12 months	Yes, more than a year ago	No
l) Have you been in any trouble with the Police?	Yes, in the past 12 months	Yes, more than a year ago	No

m) Has anyone among your immediate family (mother, father, brother or sister) died?	Yes, in the past 12 months	Yes, more than a year ago	No
n) Has anyone else close to you died?	Yes, in the past 12 months	Yes, more than a year ago	No
o) Has anyone among your family or friends committed suicide?	Yes, in the past 12 months	Yes, more than a year ago	No
p) Has anyone among your family attempted suicide or deliberately harmed themselves?	Yes, in the past 12 months	Yes, more than a year ago	No
q) Has anyone among your close friends attempted suicide or deliberately harmed themselves?	Yes, in the past 12 months	Yes, more than a year ago	No
r) Have you had worries about your sexual orientation (ie that you might be lesbian, gay or bisexual)?	Yes, in the past 12 months	Yes, more than a year ago	No
s) Has anyone forced you (ie physically or verbally) to engage in sexual activities against your will?	Yes, in the past 12 months	Yes, more than a year ago	No
t) Has any other distressing event occurred involving you, your family or close friends?	Yes, in the past 12 months	Yes, more than a year ago	No

## Appendix 5. HADS Scale

### 2.8 Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983)

The next questions are about how you have been feeling recently. Please select which best describes your feelings in the past week.

40. I feel tense and “wound up”.

- Most of the time
- A lot of the time
- Time to time – occasionally
- Not at all

41. I still enjoy the things I used to enjoy.

- Definitely as much
- Not quite so much
- Only a little
- Hardly at all

42. I get a sort of frightened feeling as if something awful is about to happen.

- Very definitely and quite badly
- Yes, but not too badly
- A little, but it doesn't worry me
- Not at all

43. Worrying thoughts go through my mind.

- A great deal of the time
- A lot of the time
- From time to time, but not often
- Only occasionally

44. I can laugh and see the funny side of things.

- A great deal of the time
- A lot of the time
- From time to time, but not often
- Only occasionally

45. I feel cheerful.

- Not at all
- Not often
- Sometimes
- Most of the time

46. I can sit at ease and feel relaxed.

- Definitely
- Usually
- Not often
- Not at all

47. I feel as if I am slowed down.

- Nearly all the time
- Very often
- Sometimes
- Not at all

48. I get a sort of frightened feeling like "butterflies" in the stomach.

- Not at all
- Occasionally
- Quite often
- Very often

49. I have lost interest in my appearance.

- Definitely
- I don't take so much care as I should
- I may not take quite as much care
- I take just as much care as ever

50. I feel restless as if I have to be on the move.

- Very much indeed
- Quite a lot
- Not very much
- Not at all

51. I look forward with enjoyment to things.

- As much as I ever did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all

52. I get sudden feelings of panic.

- Very often indeed
- Quite often
- Not very often
- Not at all

53. I can enjoy a good book or radio or TV programme.

- Often
- Sometimes
- Not often
- .....

## Appendix 6. SDQ Scale

### Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

Your Name .....

Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am restless, I cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get a lot of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually share with others (food, games, pens etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get very angry and often lose my temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am usually on my own. I generally play alone or keep to myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually do as I am told	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I worry a lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have one good friend or more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I fight a lot. I can make other people do what I want	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am often unhappy, down-hearted or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other people my age generally like me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am easily distracted, I find it difficult to concentrate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am nervous in new situations. I easily lose confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am often accused of lying or cheating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other children or young people pick on me or bully me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often volunteer to help others (parents, teachers, children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think before I do things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take things that are not mine from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get on better with adults than with people my own age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have many fears, I am easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I finish the work I'm doing. My attention is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **Appendix 7. RG1a Application**

**RG1a APPLICATION TO UNDERTAKE RESEARCH ON HUMAN SUBJECTS**

***PLEASE REFER TO THE NOTES OF GUIDANCE BEFORE COMPLETING THIS FORM. (Available from the Research Governance website at <http://www.ulster.ac.uk/research/rg/>)***

**All sections of this form must be completed (use minimum font size 11). If the form is altered in any way it will be returned unconsidered by the Committee.**

## **This form should be used for research in categories A, B and D**

**Do not use this form for research being conducted in collaboration with the NHS/HPSS (category C).**

## **SECTION A**

<b>Chief Investigator</b>	Dr. Paula McFadden
<b>Title of Project</b>	<i>An Evaluation of a Trauma Informed Intervention and Related Change in Attitudes and Behaviour among Staff in a Secondary School in Northern Ireland</i>
<b>Student and course (if applicable)</b>	Mr. Justin MacLochlainn (PhD Researcher)
<b>Additional Investigators</b>	Dr. John Mallett Dr. Karen Kirby

**Declaration - Chief Investigator:**

I confirm that

A

- this project meets the definition for research in category\* (*please insert*)
- this project is viable and is of research or educational merit;
- all risks and ethical and procedural implications have been considered;
- the project will be conducted at all times in compliance with the research description/protocol and in accordance with the University's requirements on recording and reporting;
- this application has not been submitted to and rejected by another committee; and
- Permission has been granted to use all copyright materials including questionnaires and similar instruments

Signed:

Date: 17<sup>th</sup> July 2019

**Once complete, this application and all associated materials must be submitted for peer review**

**\*In addition, you should complete form RG1d for all category D research and form RG1e for both category B and D research**

#### Peer Review

- Those conducting peer review should complete form RG2 and attach it to this form (RG1). RG1, RG2 and all associated materials should then be returned to the Chief Investigator.
- Depending upon the outcome of peer review, the Chief Investigator should arrange to submit to the Filter Committee, resubmit the application for further review or consider a new or substantially changed project. The application must not be submitted to the Filter Committee until the peer review process has been completed (except as permitted below)

### **Filter Committee**

- *The application must be considered by the Filter Committee in accordance with the requirements of the University*
- *The Filter Committee should complete form RG3 and write to the Chief Investigator indicating the outcome of its review*
- *Depending upon the outcome of the Filter Committee review, the Chief Investigator should arrange to proceed with the research OR submit to the University's Research Ethics Committee OR resubmit the application for further review OR consider a new or*

The research will be undertaken at Oakgrove Integrated College, Stradreagh Gransha Park, Derry, BT47 6TG N. Ireland **Tel:** 028 71 860443; **Fax:** 028 71 860536, and at St. Joseph's Convent Grammar School, Castlecaulfield Rd.Dungannon Bt70 3HE. Tel: 44 28 8776 1227. Data coding and analysis will take place at Ulster University and at the home of the PhD researcher.

**2. a. What prior approval/funding has been sought or obtained to conduct this research? Please also provide the UU cost centre number if known**

Not Applicable

**b. Please indicate any commercial interest in/sponsorship of the study**

Not Applicable

**3. Duration of the Project**

Start: 28.08.2019

End: 21.12.2020

Duration: 16 months

**4. Background to and reason(s) for the Project**

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

There is a growing recognition and acknowledgement that students' ability to reach their potential in school - both behaviourally and academically – is linked to their educators' knowledge of child and adolescent development, childhood adversity and trauma, and how these impact student learning and behaviour.

Studies have shown that teachers may not be aware of the signs and symptoms of childhood trauma in their students, suggesting that some teachers may not be equipped to engage these students in the school curriculum

Conversely, many trauma-impacted staff may be re-traumatised by student behaviour with teachers reporting that stress resulting from students' disruptive behaviour is central to experiences of burnout and leaving the profession.

## **5. Aims of the Project**

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

This study plans to evaluate a two-day professional training workshop, delivered by the researcher's supervisory team, entailing a) education in the Adverse Childhood literature e.g. prevalence, lifelong risks, neurodevelopment and intergenerational transmission of trauma, b) Training in identifying signs of abuse and neglect, c) education in social and emotional learning and resilience skills, d) education in healthy boundaries, practices, and self-care for professionals, e) screening and panel discussion of 'Paper Tigers'.

The aims of the study are to introduce trauma-informed practices within the school in an effort to support vulnerable young people and to aid in the wellbeing of staff.

## **6. Procedures to be used**

### **a. Methods**

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

**Step 1:** The study proposes to use a longitudinal (over time) pre-post (before and after) intervention (workshop), waitlist control group design (the waitlist control group do not get the intervention at the same time as the active group within the study but is used as baseline comparison for the group that does receive the intervention and otherwise known as the active group. However, the waitlist control group are put on to a waiting list and do receive the intervention following completion of the study with the active group) to evaluate the efficacy of a trauma-informed intervention and related change in attitudes and compassion satisfaction of staff (n=60) in a Northern Irish secondary school over the full school year period.

**Step 2:** Collated participant data (pencil/paper questionnaires) using the ARTIC scale at three time-points (two time points for the control group) and data using ProQoL scale at two time-points will be entered into IBM SPSS V.25 statistical software to be analysed. In the event of participant withdraw from the study their data will be deleted pre analysis

**Step 3:** Statistical analysis will determine whether changes in attitudes occurred and were sustained across the three time-points of the ARTIC measurement for the active group. These will be compared to data from the control group to check for an intervention effect.

**Step 4:** Statistical analysis will be conducted to test for mean differences in behavioural burnout and compassion satisfaction over the two time-points (before and after) for the active group. These will be compared to data from the control group to check for an intervention effect.

**Step 5:** Focus groups (2) consisting of teachers and ancillary staff (in the active intervention group only) will be used to help assess and evaluate the trauma-informed intervention and staff's response to implementation and barriers to implementation of the Compassionate Schools framework and possible behaviour change related to interactions with students following training.

## b. Statistical techniques

Please provide details of the statistical techniques to be used within the project description/protocol (see Notes of Guidance)

Descriptive statistics (means and standard deviations) will be collected for the data set.

Repeated Measures ANOVA and Paired Sample t-Tests will be used to test for differences in means across various time-points

Focus Group (x2)

**Outcome variable:** Attitudes, compassion satisfaction, compassion fatigue

**Predictor Variables:** Compassionate schools workshop Age, Gender, Staff role, duration within the profession

## 7. Subjects:

### a. How many subjects will be recruited to the study (by group if appropriate)?

No New data Approx. 60 staff members of Oakgrove Integrated College will account for the active group and 60 staff members from St. Josephs Grammar School will account for the waitlist control group.	60
Existing data-	

### b. Will any of the subjects be from the following vulnerable groups -

	YES	NO
Children under 18	NA	NA
Adults with learning or other disabilities	NA	NA
Very elderly people	NA	NA
Healthy volunteers who have a dependent or subordinate relationship to investigators	NA	NA
Other vulnerable groups	NA	NA

**If YES to any of the above, please specify and justify their inclusion**

N/A

**c. Inclusion and exclusion criteria**

Please indicate, with reasons, the inclusion criteria for the project

To be included in this study, adult participants are to be currently employed/volunteer at Oakgrove Integrated College or St Joseph's Grammar

Please indicate, with reasons, any exclusion criteria for the project

Exclusion criteria for this study is anyone who does not have employment/volunteer at Oakgrove Integrated College or St Joseph's Grammar School and anyone under the age of 18

**d. Will any inducements be offered? If 'Yes', please describe**

No inducements will be offered.

**e. Please describe how and where recruitment will take place**

Consent to undertake the study within the school environment has been sought from the school principals. A participant information sheet outlining the study details will be provided to all staff (teachers and ancillary staff) involved in this study by the researcher to help facilitate consent to take part in this study. The school principals will be responsible to invite school staff to attend on the day.

**8. Ethical implications of the research**

Please provide an assessment of the ethical implications of the project

There are no ethical implications foreseen by the researcher. Anonymity was assured by coding the last 4 numbers of participants mobile phone number.

Education in trauma may evoke discomfort and emotional upset in participants. Signposting for relevant support is applied via the participant information sheet and consent form along with reassurance from the researcher that participants were free to leave the study at any time and their data deleted from analysis.

Permissions for scale use has been sought (ProQoL) and scales requiring purchase (ARTIC) have been funded by Ulster University.

**9. Could the research identify or indicate the existence of any undetected healthcare concern?**

Yes  No

If Yes, please indicate what might be detected and explain what action will be taken (e.g. inform subject's GP)

Not Applicable

## 10. Risk Assessment \*\*

Please indicate any risks to subjects or investigators associated with the project

As this study will be conducted on the campus of the Oakgrove Integrated College and St Joseph's Grammar School, the researcher is at minimal risk.

If participants are extremely sensitive they may be remotely at risk of experiencing slight increased worry/anxiety after completing this training workshop.

**\*\*If you wish, you can use form RG1c – Risk Assessment Record (available from the Research Governance website) to help you assess any risks involved**

## 11. Precautions

Please describe precautions to be taken to address the above

There is no anticipated risk for the need of immediate psychological support. However if an unforeseen issue arises, the team will respond by signposting support already available through participant information. Signposting has been applied via the participant information sheet and consent form along with reassurance from the researcher that participants were free to leave the study at any time.

~~It is assumed that as this study is being conducted on human subjects, an information sheet and associated consent form will be provided. A copy of the information sheet and form must be attached to this application. See Notes of Guidance.~~

**If a consent form is not to be used, please provide a justification:**

N/A

## 13. Care of personal information

Please describe the measures that will be taken to ensure that subjects' personal data/information will be stored appropriately and made available only to those named as investigators associated with the project.

Each participant will be coded by a unique identifier and therefore participants do not have to provide their names ensuring anonymity.

This information will be stored in a secure password protected database at Ulster University premises for 10 years in accordance with University policy on storage of research data from human participants.

All GDPR principles as set out by the University will be upheld.

**14. Copyright**

Has permission been granted to use all copyright materials including questionnaires and similar instruments?

Yes  Y  No

If No, please provide the reason

Non Applicable

**Once you have completed this form you should also complete form RG1d for all category D research and form RG1e for both category B and D research**

## Appendix 8. RG6

**UNIVERSITY OF ULSTER**

UU Ref No:

**RESEARCH GOVERNANCE**

**Form RG6**

**Notification of a proposed substantial amendment**

Chief Investigator:

Paula Mc Fadden

Approved Study Title:

An Evaluation of a Trauma Informed Intervention and Related Change in Attitudes and Behaviour among Staff in a Secondary School in Northern Ireland

New/Amended Title (if appropriate):

Type of Amendment (please indicate any that apply):

- Amendment to application form [✓]
- Amendment to description/protocol [✓]
- Amendment to the information sheet/consent or other supporting information [✓]

Please submit the appropriate amended documentation in each case, ensuring that new text is highlighted to enable comparison with the previous version to be made.

Summary of Changes: (ACE informed workshop teachers maclochlainn, kirby, mcfadden, mallett Draft 24Oct19): there are two changes to this study.

1- Adding a waitlist control group (St.Josephs') to the methodological design of the study. Waitlist control means this group are assigned to a waiting list and will receive the intervention, i.e. two days Compassionate Schools training, following the completion of the study with the active intervention group (Oakgrove) that will receive the Compassionate Schools training. The waitlist control group do not get the intervention at the same time as the active group within the study but is used as baseline comparison for the group that does receive the intervention and otherwise known as the active group. However, the waitlist control group are put on to a waiting list and do receive the intervention following completion of the study with the active group (Aug 2020).

In order to demonstrate more significant change in teachers attitudes to trauma and trauma informed practice, the research team believed that we need to add a control group to the pilot. We have secured agreement from a similar demographic school in Donaghmore School (called St Joseph's grammar school). We have a letter to confirm their approval- see attached.

**Summary of Changes (continued):**

**2 Adding two (2) focus groups (n=18) with 9 participants in each.**

In order to determine whether the trauma informed compassionate schools workshop made any difference to the teacher's teaching and (other staff's) practice, we want to conduct (2) focus group interviews with the teaching and other school staff at Oakgrove Integrated College who received the Compassionate Schools training (active group). The questions will assess implementation and possible behavior change related to interactions with students over the full term following the training. Duration of each focus group interview will be approximately 90 minutes.

**Additional ethical considerations:**

There are no foreseen additional ethical considerations.

**List of enclosed documents:**

JMacL **RG1a TeacherWorkshop 24Oct19**

**Participant Information Sheet and Consent Form 24Oct19**

Proposal: ACE informed workshop teachers maclochlainn, kirby, mcfadden, mallett Draft 24Oct19

Letter from Donaghmore school indicating that they are happy to be involved in the study.

**Declaration:**

I confirm that the information in this form is accurate and that implementation of the proposed amendment will benefit the study appropriately.



**Filter Committee Decision**

This amendment:

is appropriate to the needs of the study, is in category A and should be implemented

is appropriate to the needs of the study, is in category B and should be considered by the University REC

is NOT appropriate and should be reconsidered or withdrawn

Signed ..... Date .....

**Appendix 9.** Approval Letter from Waitlist Control School



30 September 2019

**Re: Study: Overcoming Adverse Childhood Experiences using Trauma Informed Approaches in Schools.**

To Karen Kirby and Justin MacLochlainn,

Regarding the above project, I, the principal of St Joseph's Grammar School, Donaghmore, am happy to approve our school staff to participate in this project during the academic year 2019-2020.

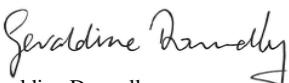
I am aware that this means that our school will act as the waiting list control group and will form part of a larger ongoing study at Ulster University.

This means that Ulster University staff (assisted by Justin MacLouchlann- PhD researcher) will gather data from the staff and school teachers on their attitudes to childhood trauma and pupil distress (and how they deal with it), but they will also gather information on teacher well-being and levels of self-care.

Furthermore, we are aware that this data will be collected at two time points, once in October 2019 and a further time in February/March 2020.

After this, we are aware that the Ulster Team will come to deliver 'whole school' training on 'Trauma informed compassionate schools' to all staff in our school around March/April time in 2020.

Kind Regards,

  
Geraldine Donnelly

Principal

## Appendix 10. RG3

### UNIVERSITY OF ULSTER RESEARCH GOVERNANCE

#### RG3 Filter Committee Report Form

Project Title	An Evaluation of a Trauma Informed Intervention and Related Change in Attitudes and Behaviour among Staff in a Secondary School in Northern Ireland
Chief Investigator	Paula McFadden (Justin MacLochlainn)
Filter Committee	School of Applied Social and Policy Sciences

This form should be completed by Filter Committees for all research project applications in categories A to D (\*for categories A, B, and D the University's own application form – RG1a and RG1b – will have been submitted; for category C, the national, or ORECNI, application form will have been submitted).

Where substantial changes are required the Filter Committee should return an application to the Chief Investigator for clarification/amendment; the Filter Committee can reject an application if it is thought to be unethical, inappropriate, incomplete or not valid/viable.

**Only when satisfied that its requirements have been met in full and any amendments are complete, the Filter Committee should make one of the following recommendations:**

The research proposal is complete, of an appropriate standard and is in

- category A and the study may proceed\*
- category B and the study must be submitted to the University's Research Ethics Committee\*\* Please indicate briefly the reason(s) for this categorisation
- category C and the study must be submitted to ORECNI along with the necessary supporting materials from the Research Governance Section\*\*\*
- category D and the study must be submitted to the University's Research Ethics Committee\*\*

Signed:

Date: 19/7/19

\*The application form and this assessment should now be returned to the Chief Investigator. The Filter Committee should retain a copy of the complete set of forms.

\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can submit the application to the UUREC via the Research Governance section. The Filter Committee should retain a copy of the complete set of forms for their own records.

\*\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can prepare for application to a NRES/ORECNI committee. The Filter Committee should retain a copy of the complete set of forms for their own records.

**For all categories, details of the application and review outcome should be minuted using the agreed format and forwarded to the Research Governance section**

**Please complete the following**

The application should be accompanied by an appropriate and favourable Peer Review Report Form (if not, the Filter Committee should be prepared to address this as part of its review). Please comment on the peer review (include whether or not there is evidence that the comments of the peer reviewers have been addressed).

The application was peer reviewed and issues responded to. Additional queries and recommendations made by the Filter Committee have been addressed.

Please provide an assessment of all component parts of the application, including questionnaires, interview schedules or outline areas for group discussion/unstructured interviews.

The proposed study is well contextualised and there is a clear rationale. The methodology proposed is appropriate to the research questions. Indicative topic content is included and is appropriate.

Please comment on the consent form and information sheet, in particular the level of language and accessibility.

The consent form and information sheets are comprehensive and accessible.

Please comment on the qualifications of the Chief and other Investigators.

The Chief and other investigators are well qualified to conduct this study.

Please comment on the risks present in conducting the study and whether or not they have been addressed.

Risks have been identified and addressed.

Please indicate whether or not the ethical issues have been identified and addressed.

Ethical issues have been identified and precautions cited.

Please comment on whether or not the subjects are appropriate to the study and the inclusion/exclusion criteria have been identified and listed.

## Appendix 11. Participant Information Sheet



### Ulster University Doctoral College School of Psychology Information Sheet and Consent Form.

**Title of Project:** An Evaluation of a Trauma Informed Intervention and Related Change in Attitudes and Behaviour among Staff in a Secondary School in Northern Ireland.

You have been invited to take part in a research study involving a two-day training workshop and survey. This study will be part of an overall doctoral thesis undertaken by the researcher.

Before reaching a decision on whether or not to take part in this study, it is important you understand what the research is about and what you will be asked to do.

Please take time to consider the following information and if you have any queries, please do not hesitate to contact the researcher to ask any questions about anything that is not clear to you.

I would like to invite you to participate and thank you for taking time to consider this request.

**Reason for the research:** There is a growing recognition and acknowledgement that students' ability to reach their potential in school - both behaviourally and academically – is linked to their educator's knowledge of child and adolescent development, childhood adversity and trauma, and how these impact student learning and behaviour.

Studies have shown that teachers may not be aware of the signs and symptoms of childhood trauma in their students, suggesting that some teachers struggle to understand trauma based behaviour and may feel ill-equipped to engage these students in the school curriculum.

Additionally, many trauma-impacted staff may be re-traumatised by student behaviour with teachers reporting that stress resulting from students' disruptive behaviour is central to their experiences of burnout and leaving the profession.

This study plans to evaluate a two-day professional training intervention workshop on trauma informed schools designed for school staff who are working to support post primary school children who present with Adverse Childhood Experiences (ACE's).

The aims of the study are to introduce trauma-informed practices within the school in an effort to support vulnerable young people and to aid in the wellbeing of staff.

**Details of participation:** As part of this study, staff at Oakgrove Integrated College will receive a trauma informed intervention and will be asked to complete this survey before the intervention begins, immediately after the intervention, and once more at the end of term. Staff at Oakgrove will be referred to as the 'active intervention' group within this study.

Staff at St. Josephs Grammar School will act as a control group and will not receive the intervention immediately but will be put on a waiting list and will receive the intervention following completion of the study by the active intervention group. In other words, if you consent, we will ask you to complete the survey in the first school term (October/November 2019) and again at the end of school term (June 2019), and the trauma informed intervention will be delivered in August 2020 in your school. Staff at St. Josephs' will be referred to as the 'waitlist control' group within this study.

The survey will involve completion of demographic information (age, gender, current staff role, duration within the profession, and any previous training in trauma) along with questionnaires relating to the characteristics that I am exploring. Time to complete the questionnaires should be approximately 10 minutes.

Additionally, those in the active intervention group only (Oakgrove), will be invited to take part in two focus groups with Dr. Paula McFadden, Dr. Karen Kirby and myself at the end of term (June 2020) to allow the researchers to understand the impact of implementing 'trauma informed practices' within this school and any changes in practices or experiences that may have emerged or thought to be associated with this intervention.

In order to protect confidentiality, you will not be asked for any personal identifying information. The first question will ask you for the last four digits of your mobile phone number. This will give you your unique identity number. This number will be matched to previous completed surveys for analysis purposes by the researcher.

All the information provided will be anonymous and all data will be treated in a confidential manner and retained in a secure location at Ulster University for a minimum of 10 years in line with Data Protection legislation and Ulster University research governance rules on retention and storage of personal data.

Ulster University is the sponsor or managing organisation for this study and I will use information gathered from you to carry it out. I will act as the data controller, which means that I am responsible for looking after your information and using it properly, as stipulated in the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. This means that when you agree to take part in a study, I will use your data to conduct the research and analyse the information and findings, however in this study I am not collecting any data that can personally identify you. By completing the consent form on the following page, you are giving your permission for me to use your non-identifiable data. You can find out more about how Ulster University look after research data at:

<https://www.ulster.ac.uk/about/governance/compliance/gdpr>

If you decide to take part, I would ask you to complete the consent form supplied with this information sheet. You are free at any time to change your mind about participation in the study, without any reason. In this instance your information will be withdrawn from the study (this will be the case upon date of withdrawal).

**Further information:** Please feel free to contact the chief investigator **Dr. Paula McFadden:** p.mcfadden@ulster.ac.uk, **Justin Maclochlainn** [maclochlainn-J@ulster.ac.uk](mailto:maclochlainn-J@ulster.ac.uk)

(Doctoral Researcher), Dr. John Mallett and/or Dr. Karen Kirby (co-investigators) should you require further information.

**YOU ARE NOT REQUIRED TO TAKE PART IN THIS STUDY AND IF YOU DO DECIDE TO PARTICIPATE YOU CAN WITHDRAW AT ANY TIME WITHOUT GIVING ANY REASON**

**ANY PREVIOUSLY COLLECTED PARTICIPANT-WITHDRAWN DATA WILL NOT BE RETAINED BY THE RESEARCHER**

If you feel any psychological distress as a result of this study, please consider the contacts below or contact your G.P.

Lifeline: 0808 808 8000 or [www.lifelinehelpline.info](http://www.lifelinehelpline.info)

Samaritans: 116 123 or [www.samaritans.org/how-we-can-help-you/contact-us](http://www.samaritans.org/how-we-can-help-you/contact-us)

Ulster University counselling: 0800 028 5510  
[www.ulster.ac.uk/studentsupport/services/counselling](http://www.ulster.ac.uk/studentsupport/services/counselling)

Or

Employee Assistance Program may be available by your employer. Check out the staff care policy at your school.

## Appendix 12. Consent Form



### **Statement of Consent**

An Evaluation of a Trauma Informed Intervention and Related Change in Attitudes and Behaviour among Staff in a Secondary School in Northern Ireland

Date of commencement: August 2019

**By ticking each box I agree**

**Please tick**

I agree to participate in the study and understand that I have the right to withdraw at any time.

I have been given information of what my participation will involve

Any questions I have had about the study have been answered to my satisfaction.

Doctoral Researcher: Justin MacLochlainn; ([macLochlainn-J@ulster.ac.uk](mailto:macLochlainn-J@ulster.ac.uk))

Chief Investigator: Dr. Paula McFadden; ([p.mcfadden@ulster.ac.uk](mailto:p.mcfadden@ulster.ac.uk))

Co-Investigators:

Dr. John Mallett ([j.mallett@ulster.ac.uk](mailto:j.mallett@ulster.ac.uk))

Dr. Karen Kirby ([k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk))

### Appendix 13. Attitudes Related to Trauma-Informed Care Scale

People who work in education, health care, human services, and related fields have a wide variety of beliefs about their students, their jobs, and themselves. The term “student” is interchangeable with “client,” “person,” “resident,” “patient,” or other terms to describe the person being served in a particular setting.

**Trauma-informed care** is an approach to engaging people with trauma histories in education, human services, and related fields that recognizes and acknowledges the impact of trauma on their lives.

#### ✓ Instructions

For each item, select the circle along the dimension between the two options that best represents your personal belief during the past two months at your job.

#### Sample

	1	2	3	4	5	6	7	
Ice cream is delicious	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Ice cream is disgusting				

**Note:** In this SAMPLE ITEM, the respondent is reporting that he/she believes that ice cream is much more delicious than disgusting.

#### I believe that...

	1	2	3	4	5	6	7	
1 Students' learning and behaviour problems are rooted in their behavioural or mental health condition.	<input type="radio"/>	Students' learning and behaviour problems are rooted in their history of difficult life events.						
2 Focusing on developing healthy, healing relationships is the best approach when working with people with trauma histories.	<input type="radio"/>	Rules and consequences are the best approach when working with people with trauma histories.						
3 Being very upset is normal for many of the students I serve	<input type="radio"/>	It reflects badly on me if my students are very upset.						
4 I don't have what it takes to help my students.	<input type="radio"/>	I have what it takes to help my students.						
5 It's best not to tell others if I have strong feelings about the work because they will think I am not cut out for this job.	<input type="radio"/>	It's best if I talk with others about my strong feelings about the work so I don't have to hold it alone.						
6 The students were raised this way, so there's not much I can do about it now	<input type="radio"/>	The students were raised this way, so they don't yet know how to do what I'm asking them to do.						

	Students need to experience real life consequences in order to function in the real world.	<input type="radio"/>	Students need to experience healing relationships in order to function in the real world.
7	If students say or do disrespectful things to me, it makes me look like a fool in front of others	<input type="radio"/>	If students say or do disrespectful things to me, it doesn't reflect badly on me.
8	I have the skills to help my students.	<input type="radio"/>	I do not have the skills to help my students.
9	The best way to deal with feeling burnt out at work is to seek support.	<input type="radio"/>	The best way to deal with feeling burnt out at work is not to dwell on it and it will pass.
10	Many students just don't want to change or learn.	<input type="radio"/>	All students want to change or learn.
11	Students often are not yet able or ready to take responsibility for their actions. They need to be treated flexibly and as individuals.	<input type="radio"/>	Students need to be held accountable for their actions.
12	I realize that students may not be able to apologize to me after they act out.	<input type="radio"/>	If students don't apologize to me after they act out, I look like a fool in front of others.
13	Each day is uniquely stressful in this job.	<input type="radio"/>	Each day is new and interesting in this job.
14	The fact that I'm impacted by my work means that I care.	<input type="radio"/>	Sometimes I think I'm too sensitive to do this kind of work
15	Students have had to learn how to trick or mislead others to get their needs met	<input type="radio"/>	Students are manipulative so you need to always question what they say.
16	Helping a student feel safe and cared about is the best way to eliminate undesirable behaviours.	<input type="radio"/>	Administering punitive consequences is the best way to eliminate undesirable behaviours.
17	When I make mistakes with students, it is best to move on and pretend it didn't happen	<input type="radio"/>	When I make mistakes with students, it is best to own up to my mistakes.
18	The ups and downs are part of the work so I don't take it personally	<input type="radio"/>	The unpredictability and intensity of work makes me think I'm not fit for this job.
19	The most effective helpers find ways to toughen up – to screen	<input type="radio"/>	The most effective helpers allow themselves to be affected by the work – to feel and

	out the pain – and not care so much about the work.		manage the pain – and to keep caring about the work.
21	Students could act better if they really wanted to.	<input type="radio"/>	Students are doing the best they can with the skills they have.
22	It's best to treat students with respect and kindness from the start so they know I care.	<input type="radio"/>	It's best to be very strict at first so students learn they can't take advantage of me.
23	Healthy relationships with students are the way to good student outcomes	<input type="radio"/>	People will think I have poor boundaries if I build relationships with my students.
24	I feel able to do my best each day to help my students.	<input type="radio"/>	I'm just not up to helping my students anymore.
25	It is because I am good at my job that the work is affecting me so much.	<input type="radio"/>	If I were better at my job, the work wouldn't affect me so much.
26	Students do the right thing one day but not the next. This shows that they are doing the best they can at any particular time.	<input type="radio"/>	Students do the right thing one day but not the next. This shows that they could control their behaviour if they really wanted to.
27	When managing a crisis, enforcement of rules is the most important thing.	<input type="radio"/>	When managing a crisis, flexibility is the most important thing
28	If I don't control students' behaviour, bad things will happen to property.	<input type="radio"/>	As long as everyone is safe, it is ok for students to become really upset, even if they cause some property damage.
29	I dread going to my job because it's just too hard and intense.	<input type="radio"/>	Even when my job is hard and intense, I know it's part of the work and it's ok.
30	How I am doing personally is unrelated to whether I can help my students.	<input type="radio"/>	I have to take care of myself personally in order to take care of my students.
31	If things aren't going well, it is because the students are not doing what they need to do.	<input type="radio"/>	If things aren't going well, it is because I need to shift what I'm doing.
32	I am most effective as a helper when I focus on a student's strengths.	<input type="radio"/>	I am most effective as a helper when I focus on a student's problem behaviours
33	Being upset doesn't mean that students will hurt others.	<input type="radio"/>	If I don't control students' behaviour, other students will get hurt.

- 
- 34 If I told my colleagues how hard my job is, they would support me.           If I told my colleagues how hard my job is, they would think I wasn't cut out for the job.
- 35 When I feel myself "taking my work home," it's best to bring it up with my colleagues and/or supervisor(s).           When I feel myself "taking my work home," it's best to keep it to myself.
- 

*Thank you for your participation.*

## Appendix 14. Professional Quality of Life Scale

### PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL) INSTRUMENT

#### Professional Quality of Life Scale (ProQOL)

*Compassion Satisfaction and Compassion Fatigue  
(ProQOL) Version 5 (2009)*

When you [help] people you have direct contact with their lives. As you may have found, your compassion for those you [help] can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a [helper]. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1=Never	2=Rarely	3=Sometimes	4=Often	5=Very Often
_____	_____	_____	_____	_____
1. I am happy.				
2. I am preoccupied with more than one person I [help].				
3. I get satisfaction from being able to [help] people.				
4. I feel connected to others.				
5. I jump or am startled by unexpected sounds.				
6. I feel invigorated after working with those I [help].				
7. I find it difficult to separate my personal life from my life as a [helper].				
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help].				
9. I think that I might have been affected by the traumatic stress of those I [help].				
10. I feel trapped by my job as a [helper].				
11. Because of my [helping], I have felt "on edge" about various things.				
12. I like my work as a [helper].				
13. I feel depressed because of the traumatic experiences of the people I [help].				
14. I feel as though I am experiencing the trauma of someone I have [helped].				
15. I have beliefs that sustain me.				
16. I am pleased with how I am able to keep up with [helping] techniques and protocols.				
17. I am the person I always wanted to be.				
18. My work makes me feel satisfied.				
19. I feel worn out because of my work as a [helper].				
20. I have happy thoughts and feelings about those I [help] and how I could help them.				
21. I feel overwhelmed because my case [work] load seems endless.				
22. I believe I can make a difference through my work.				
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I [help].				
24. I am proud of what I can do to [help].				
25. As a result of my [helping], I have intrusive, frightening thoughts.				
26. I feel "bogged down" by the system.				
27. I have thoughts that I am a "success" as a [helper].				
28. I can't recall important parts of my work with trauma victims.				
29. I am a very caring person.				
30. I am happy that I chose to do this work.				

© B. Hudnall Stamm, 2009. *Professional Quality of Life: Compassion Satisfaction and Fatigue Version 5 (ProQOL)*. /www.ius.edu/~bhstamm or www.proqol.org. This test may be freely copied as long as (a) author is credited, (b) no changes are made, and (c) it is not sold.

## Appendix 15. RG1a Application

UNIVERSITY OF ULSTER

RESEARCH GOVERNANCE

RG1a APPLICATION TO UNDERTAKE RESEARCH ON HUMAN SUBJECTS

**PLEASE REFER TO THE NOTES OF GUIDANCE BEFORE COMPLETING THIS FORM.**  
*(Available from the Research Governance website at <http://www.ulster.ac.uk/research/rge/>)*

All sections of this form must be completed (use minimum font size 11). If the form is altered in any way it will be returned unconsidered by the Committee.

This form should be used for research in categories A, B and D

Do not use this form for research being conducted in collaboration with the NHS/HPSS (category C).

### SECTION A

Chief Investigator	Dr. Karen Kirby		
Title of Project	<i>Targeting Emotional Dysregulation Using Whole School Trauma-Informed Audio-Guided Daily Mindfulness: A Bronfenbrenner Systemic Framework Including Students, Teachers and Caregivers</i>		
Student and course (if applicable)	Mr. Justin MacLochlainn (PhD Researcher)		
Additional Investigators	<table border="1"> <tr> <td>Dr. John Mallett</td> <td>Dr. Paula McFadden Senior Lecturer in School of Applied Social and Policy Sciences</td> </tr> </table>	Dr. John Mallett	Dr. Paula McFadden Senior Lecturer in School of Applied Social and Policy Sciences
Dr. John Mallett	Dr. Paula McFadden Senior Lecturer in School of Applied Social and Policy Sciences		

#### Declaration - Chief Investigator:

I confirm that

- this project meets the definition for research in category\* (*please insert*) B
- this project is viable and is of research or educational merit;
- all risks and ethical and procedural implications have been considered;
- the project will be conducted at all times in compliance with the research description/protocol and in accordance with the University's requirements on recording and reporting;
- this application has not been submitted to and rejected by another committee; and
- Permission has been granted to use all copyright materials including questionnaires and similar instruments

Signed:

Date: 26<sup>th</sup> March 2020

**Once complete, this application and all associated materials must be submitted for peer review**

**\*In addition, you should complete form RG1d for all category D research and form RG1e for both category B and D research**

#### Peer Review

- *Those conducting peer review should complete form RG2 and attach it to this form (RG1). RG1, RG2 and all associated materials should then be returned to the Chief Investigator.*
- *Depending upon the outcome of peer review, the Chief Investigator should arrange to submit to the Filter Committee, resubmit the application for further review or consider a new or substantially changed project. The application must not be submitted to the Filter Committee until the peer review process has been completed (except as permitted below)*

#### Filter Committee

- *The application must be considered by the Filter Committee in accordance with the requirements of the University*
- *The Filter Committee should complete form RG3 and write to the Chief Investigator indicating the outcome of its review*
- *Depending upon the outcome of the Filter Committee review, the Chief Investigator should arrange to proceed with the research OR submit to the University's Research Ethics Committee OR resubmit the application for further review OR consider a new or substantially changed project*

### SECTION B

#### 1. Where will the research be undertaken?

The research will be undertaken at University of Ulster, Coleraine Campus, Cromore Rd, Coleraine BT52 1SA.

Both student and teacher surveys will be online via Qualtrics. Data collection will take place at Oakgrove Integrated College, Derry, N. Ireland.

#### 2. a. What prior approval/funding has been sought or obtained to conduct this research? Please also provide the UU cost centre number if known

Not Applicable

**b. Please indicate any commercial interest in/sponsorship of the study**

The web-based Inner Explorer intervention has been offered at no cost to the school, in good faith, we will share some outcomes with the programme director – Dr Laura Bakosh.

**3. Duration of the Project**

Start: 01.09.2020

End: 01.09.2021

Duration: 12 months

**4. Background to and reason(s) for the Project**

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

This study was designed to determine whether an internet-based mindfulness program (Inner Explorer) delivered to adolescents in a classroom environment would help students manage their stress and emotions, in turn, increasing the likelihood of better mental health and well-being. As teachers implement the program in their form class by playing the mindful lessons over speakers, they may also decide to practice along with the students or in their own time. Previous research has suggested this to be beneficial to teacher well-being. We would like to find out whether teachers practicing mindfulness would help teachers manage their work-related stress, therefore minimising the likelihood of occupational burnout while improving well-being. Additionally, we want to find out whether students whose parent(s) practice at home will have greater mental health benefits over and above those students whose parents do not practice at home. Finally, we want to learn whether student participation in mindfulness practice leads to improved outcomes in student measures of emotional regulation, stress, rumination, resilience, along with anxiety and depression, in comparison to students who do not practice mindfulness in the first wave of the programme (waitlist control group).

**5.**

### Aims of the Project

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

This study has been proposed to achieve the following five aims. (1) to assess associations between difficulties in emotional regulation and stress, and subsequent psychopathologic responses in adolescents, (2) to determine whether a mindfulness-based intervention will increase adolescent emotional regulation and resilience, and decrease levels of rumination, perceived stress and psychopathologic responses in adolescents, (3) to determine whether mindfulness practice increases levels of mental wellbeing, and decreases levels of perceived stress and burnout in teachers, (4) to evaluate whether parental participation in mindfulness practice leads to improved mental health and well-being outcomes in their children over and above adolescents who practice without parental participation. Finally, (5) to determine whether student participation in mindfulness practice leads to improved outcomes in comparison to students who do not practice mindfulness (control group).

## 6. Procedures to be used

### a. Methods

**Please provide a brief summary in language comprehensible to a lay person or non-expert. Full details must be provided in the description/protocol submitted with this application (see Notes of Guidance)**

Step 1: The 'Inner Explorer' mindfulness programme runs over 18 consecutive weeks. The study proposes to compare two groups (a group receiving the mindfulness intervention from Sept until mid-Feb 2021 and a waitlist comparison group which will receive the same programme from end of Feb until June 2021. Half of all classes within each year group will be randomly selected to form the initial intervention group and the other half will serve as the waiting comparison group. The school principal has given full support for this proposal (see attached letter), and will be running the 10 min daily mindfulness in each form class as part of a new school /pastoral care initiative (half in term 1 and the other half of the school in term 2).

Step 2: Once informed consent is complete; students and teachers will be asked to complete separate online surveys containing a battery of questions relating to mental health and wellbeing before the intervention begins in Sept 2020, and again in mid-February and once again in June 2021. All data from the three time-points will be statistically analysed to see if scores change over time. In the event of any participant withdrawing from the study their data will be deleted before analysis. To assess parental participation in mindfulness practice, students who took part in the mindfulness programmes will be asked whether their parent(s)/caregiver(s) had also practiced mindfulness using the 'Inner Explorer' app.

Step 3: Statistical analysis will examine whether those in the initial mindfulness-based intervention group report different scores on various mental health and wellbeing scales compared to those in the delayed mindfulness group at each time point. Next, analysis will examine the scores on mental health and wellbeing for students reporting that their parent(s)/carer(s) participated in the mindfulness programme at home compared to pupils who reported that their parent(s)/carer(s) did not practice the mindfulness programme.

### b. Statistical techniques

**Please provide details of the statistical techniques to be used within the project description/protocol (see Notes of Guidance)**

Descriptive statistics will provide the analyst with percentages of male and females within the study, mean age of participants, and ethnicity.

Comparing students from the intervention and control groups at time 2 (Feb. 2021). A series of linear regression analyses will be carried out to model changes on various psychological scales of happiness, emotional regulation, resilience, rumination, perceived stress, anxiety, and depression. Score changes (gain scores) on each of these scales will be computed for the period from Sept 2020 (baseline) until Feb 2021 (time 2). The main predictor variable will be group membership (mindfulness vs. waitlist control) with baseline scale scores, gender and age specified as covariates.

Comparing students from the intervention and control groups at time 3 (June, 2021).

An identical regression modelling approach will be employed to examine gain scores among students computed for the period Feb – June in order to compare the same student outcomes of the delayed mindfulness group with those of the initial mindfulness group

Comparing teachers' baseline (Sept 2020) with time 2 (Feb. 2021).

A paired samples t-test will determine whether mindfulness practice increases levels of mental well-being and decreases levels of perceived stress and burnout in teachers who practice the mindfulness intervention.

Comparing teachers' time2 (Feb 2021) and time 3 (June 2021).

Changes in teacher scores from Feb – June will be examined using paired samples t-tests

An individual samples t-test will be conducted to evaluate whether parental participation in mindfulness practice leads to improved outcomes in their children over and above adolescents who practice without parental participation.

**Outcome variable:** Anxiety/Depression, Happiness, Emotional Regulation, Resilience, Rumination, Perceived Stress.

**Predictor Variables:** The main predictor variable will be group membership (mindfulness vs. waitlist control) with baseline scale scores, gender and age specified as covariates.

## 7. Subjects:

### a. How many subjects will be recruited to the study (by group if appropriate)?

Student analysis: Given a sample size of (n=304), the regression analyses will achieve power =.8 to detect an effect size of $f^2=.04$ , with alpha =.05. Adding 10% for attrition/missing data the sample is required is 334	
---	--

Teacher analysis: Given a sample size of (n=45), the t-test analysis will achieve power = .95 to detect an effect size of $f^2=.5$ , with alpha =.05. Adding 10% for attrition/missing data the sample is required is 50.	
---	--

**b. Will any of the subjects be from the following vulnerable groups -**

	YES	NO
Children under 18	Yes	
Adults with learning or other disabilities		No
Very elderly people		No
Healthy volunteers who have a dependent or subordinate relationship to investigators		No
Other vulnerable groups		No

**If YES to any of the above, please specify and justify their inclusion**

School-based mindfulness has shown to decrease levels of adolescent anxiety and depression, rumination, negative coping, intrusive thoughts, emotional arousal, and stress in interpersonal relationships. Indeed, the scientific research suggests that mindfulness interventions build resilience via healthy lifestyle behaviours such as partaking in physical exercise, increasing grade scores, emotional well-being, optimism, hope, and prosocial behaviours.

**c. Inclusion and exclusion criteria**

Please indicate, with reasons, the inclusion criteria for the project

All students and teachers, attending the post-primary school of Oakgrove Integrated College are invited to participate in this study. This study will attempt to recruit as many participants as possible as we want the whole school to participate (Students: either in the intervention group or the control group). Finally, to assess parental participation, the intervention group (mindfulness group), post-intervention, will be asked whether their parent(s)/caregiver(s) had practiced mindfulness-via the Inner Explorer app

Please indicate, with reasons, any exclusion criteria for the project

Exclusion criteria: Only students whose parent(s) have consented will be asked to participate in data collection.

**d. Will any inducements be offered? If 'Yes', please describe**

No

**e. Please describe how and where recruitment will take place**

In order to attain parental/caregiver consent for the collection of data, meetings will be held with the school principal along with the year heads. Recruitment will begin by the distribution of the full parental information pack to all students within the school, who, in turn, will take the pack home to their parent(s)/caregiver(s) in early Sept 2020. An opt-in approach (active consent) will be used, this implies that all parent(s)/caregiver(s) must sign and return the consent form to enable their child to participate in the study. Parents of students will be invited to practice the program via an app provided they consented to their child's participation in the study, however, we will not collect data from the parents directly. Strict adherence to active consent methodology is expected in accordance with Ulster University research policy. Participation will be voluntary, and individuals will be aware they can withdraw from this study at any point without any consequences. The same consent protocol (minus parental consent) for recruitment was applied to teachers. Anyone who did not provide consent will be excluded. Students will have to provide assent before taking part in the survey, this assent form will follow the Student Information Sheet which will be the landing page of the Qualtrics survey. Students will not be allowed to continue the survey if they do not provide assent.

**8. Ethical implications of the research**

Please provide an assessment of the ethical implications of the project

Informed consent/assent from each participant will be sought prior to participation in the study. Participants will be made aware that this research will be part of a doctoral thesis.

Researchers will use ID numbers to match student responses over 3 time-points. These ID numbers could potentially identify students; however, ID numbers will be permanently removed from the final data set. Likewise, researchers will ask teachers to use the last four digits of their phone number. This unique identifier (UI) will be used to match teacher responses over 3 time-points. It will not be possible to identify teachers, but these numbers will be permanently removed from the final data set.

Participants will be made aware of their right to withdraw from the study at any time. Regarding withdrawal, once ID and UI numbers have been removed following 4 weeks after time 3 data collection, it will not be possible to request withdrawal.

It is possible that participants might experience unpleasant thoughts and emotions, as a result of direct or indirect participation in this study. These risks will be minimised by having consultation available. Participants were advised via the participant information sheet (PIS) that if they feel distressed because of their experience with the study, they will be provided recommendations for seeking treatment and support.

Signposting for relevant support is applied via the PIS and debrief sheet along with reassurance from the researcher that participants were free to leave the study at any time and their data deleted from analysis. Furthermore, the Principal and Pastoral Care coordinator will reassure verbally to the students, and offer additional support, should it be required.

**9. Could the research identify or indicate the existence of any undetected healthcare concern?**

Yes	Yes	No
-----	-----	----

If Yes, please indicate what might be detected and explain what action will be taken (e.g. inform subject's GP)

The psychological scales used are self-report and are not formal diagnostic instruments. However, both the PHQ-8 (depression) and the GAD-7 (anxiety) are commonly used in clinical interviews with adolescents. For students who score very high on either the GAD-7 or PHQ-8, a general report will be provided by the researcher to the pastoral care co-ordinator (i.e. a list of student's ID numbers whose scores were very high on anxiety or depression) following the survey. Pastoral care co-ordinators will be informed that according to the Gad-7 and PHQ-8 that students who indicate severe anxiety ( $\geq 15$ ) OR severe depression ( $\geq 16$ ) will be offered support by their pastoral care team. The researcher will inform the pastoral care co-ordinator that it is their responsibility to speak with the student concerned to offer support and signpost to relevant services (as listed on the debrief sheet). Based on this interview between the student and pastoral care co-ordinator, a decision will be made about making the student's parent(s)/caregiver(s) aware.

PHQ-8 Scores represent: 0-5 = mild 6-10 = moderate 11-15 = moderately severe 16-20 = severe depression

GAD-8 Scores represent: 0-5 mild 6-10 moderate 11-15 moderately severe anxiety 15-21 severe anxiety.

**10. Risk Assessment \*\***

Please indicate any risks to subjects or investigators associated with the project

It is unlikely but there is a *slight* possibility that there will be minimal distress caused by the questionnaires administered. However, participants will be advised this at the beginning of the study and that they have the right to withdraw at any time or refuse to answer any questions with no consequences.

**\*\*If you wish, you can use form RG1c – Risk Assessment Record (available from the Research Governance website) to help you assess any risks involved**

**11. Precautions**

Please describe precautions to be taken to address the above

Participants will be provided with a detailed participant information sheet. A debrief sheet at the end of the survey lists available support organisations and contact details. Details on how to withdraw from the study are listed in both sheets. Time 3 debrief sheet will make participants aware of the 4-week withdraw window, after this, withdrawal will not be possible.

Risks will be minimised by having consultation available. This consultation is already in place at Oakgrove Integrated College stemming from our initial pilot program of Compassionate Schools, a whole school trauma-informed approach to teaching and learning (Aug 2019). Furthermore, the Principal and Pastoral Care coordinator will reassure verbally to the students, and offer additional support, should it be required.

**12. Consent form**

It is assumed that as this study is being conducted on human subjects, an information sheet and associated consent form will be provided. A copy of the information sheet and form must be attached to this application. See Notes of Guidance.

**If a consent form is not to be used, please provide a justification:**

See attached consent forms/information sheets

**14. Care of personal information**

Please describe the measures that will be taken to ensure that subjects' personal data/information will be stored appropriately and made available only to those named as investigators associated with the project.

Each participant will be coded by a unique identifier [last 4 digits of phone no, (teachers) and student ID no. (students)] and therefore participants do not have to provide their names ensuring anonymity. On completion of the study, student ID numbers will be matched (pre, post & follow-up), the researcher will wait 4 weeks in case participants want to withdraw from the study, after which student ID numbers will be deleted from the dataset

This information will be stored in a secure password protected database at Ulster University premises for 10 years in accordance with University policy on storage of research data from human participants.

**14. Copyright**

Has permission been granted to use all copyright materials including questionnaires and similar instruments?

Yes  Y  No

If No, please provide the reason

Non Applicable

**Once you have completed this form you should also complete form RG1d for all category D research and form RG1e for both category B and D research**

**Appendix 16.** RG2 Peer Review Report Form**UNIVERSITY OF ULSTER****RESEARCH GOVERNANCE****RG2 PEER REVIEW REPORT FORM**

Project Title

Targeting Emotional Dysregulation Using Whole School Trauma-Informed Audio-Guided Daily Mindfulness: A Bronfenbrenner Systemic Framework Including Students, Teachers, and Caregivers.

Chief Investigator

Dr Karen Kirby

On the basis of the assessment below, this application:

- should proceed to the appropriate School/Faculty Research Governance Filter Committee
- should be amended by the applicant as indicated in the comments and then proceed to the appropriate School/Faculty Research Governance Filter Committee for further consideration
- requires substantial changes and should be revised and returned for further review
- is not viable in its current form and should be withdrawn by the applicant

Peer Review conducted by (please print)	Signature	Date
1. Donal McAtee		13.05.20
2. Gary Adamson	Gary Adamson	13.05.20

**Please answer the following questions**

1. Please state your area of expertise in relation to reviewing this application (i.e. the subject, the methodology, or both).

The filter committee membership has a wealth of experience and expertise in a broad range of research methodologies.

2. How does the proposed research make a contribution to the knowledge base? Is it otherwise justified for educational or training purposes?

The project should make a valuable contribution to our knowledge base regarding the potential role that mindfulness could play in a trauma-informed approach to education.

3. How does the application demonstrate appropriate understanding of the background and key issues on the part of the applicant(s)?

The application demonstrates that the applicant has a good grasp of the background to the project, as well as the issues faced by participants.

4. Please comment on the applicant's record of research in the area or if the study is otherwise justified as a research/scientific training exercise?

This study is justified as a research training exercise, but the applicant (chief investigator) is also an experienced researcher and clinician in this area of psychology.

1. Please comment on the clarity of the aims and objectives/research questions?

The aims and objectives are clearly stated.

2. Please comment on the adequacy and appropriateness of the methodology.

The methodology is appropriate to the study's aims, but there are some points to attend to (see below).

3. Please comment on the project planning.

A good deal of thought has gone into this project and the planning is sound. However, there are a few points to note below.

4. Is the envisaged outcome likely to be achieved?

Yes, following consideration of the points below.

9. Have the likely risks and ethical issues been identified and addressed?

Please consider the following points to address:

**NB – for any of the points below, please make the required changes in any of the areas that are relevant (i.e. within the protocol, and/or the RG1a form, and/or the appendices, and/or the survey). When responding to these comments, please use the list below and address each point in turn (feel free to re-use this form for that purpose), clearly highlighting your response and where you have made the changes within your submission (sections and page numbers). Also, please clearly highlight (different colour font, or highlighted background) those changes within the various areas of the submission itself.**

1. On the basis of your title, and the fourth research aim, which is “*to evaluate whether parental participation in mindfulness practice leads to improved outcomes in their children over and above adolescents who practice without parental participation,*” it sounds as though the MBI is due to be carried out with parents too. While this aspect is noted elsewhere in your submission, it is missing from the initial methodology in your Protocol that outlines the ‘student study’ and ‘teacher study’ (pages 5-6). Please include this element of your research here.

This has been addressed (see page 6, section - ‘Student Study’ last paragraph).

2. When analysing the data from the teachers’ engagement with MBI, will it be possible to determine who completed it with their class, and who completed in their own time/own environment? This may prove an important distinction.

This has been addressed by asking teachers that participated in the MBI whether they practiced in the classroom, staffroom, or in the home environment  
(see page 6, Teacher Study, last paragraph).

3. Page 13, under ‘student survey’, this section is written in past tense. This seems to fit for the purposes of describing how you constructed the Qualtrics survey, but not for the final 5 lines in this paragraph, which make it sound as though the survey has already taken place. The same applies to the ‘teacher survey’ section. Please amend the wording.

This has been addressed (see pages 13-14, sections - ‘Student Survey & Teacher Survey’).

4. The student PIS states that they can withdraw at any time. However, there is a limit to this (4 weeks, as noted in your methodology), so this should be stated. This is also the case for the assent questions, and in the debriefing form. And this also needs amended in all forms used for teachers and parents (with the exception of the parent PIS; it is stated accurately there). Box 11 in the RG1a form seems to suggest that participants will be made aware of the 4-week withdrawal period via the debriefing form, but this is not the case as yet.

This has been addressed (see page 36, Student PIS, section - ‘Who Can I Contact With Questions?’ last paragraph; see page 37, Student Assent Form, ‘I consent’ question; see page 33, Teacher PIS, section - ‘What Happens When The Study is Over?’, 3rd paragraph; see page 34, Teacher Consent Form, ‘I consent’ question; see page 53, Student Debrief Sheet; see page 54, Teacher Debrief Sheet; and see Student Survey Assent Form in Qualtrics;  
[https://ulsterhealth.eu.qualtrics.com/jfe/form/SV\\_43gI6fY0aBOV6HH](https://ulsterhealth.eu.qualtrics.com/jfe/form/SV_43gI6fY0aBOV6HH)).

5. Participants are told in the PIS that they have the right not to answer questions, but if they decide not to answer a question in the Qualtrics survey, they are not allowed to proceed any further. Is it possible for participants to be allowed to proceed if they have chosen to omit something? Or perhaps have an initial warning that pops up to tell them that they have missed something, and that they have the option to answer it or that they are free to continue if nothing needs corrected?

This has been addressed by removing the sentence ‘right not to answer questions’ (see page 36,

Student PIS Section ‘Who Can I Contact With Questions?’ 2<sup>nd</sup> paragraph). I will accept questions related to some demographic questions not to be answered by the participant, however, we are not asking overly sensitive questions within the scale items used in this survey thus I would prefer all items within each scale to be answered, this will ensure no missing data. Participants will be informed prior to accessing the survey by the CI that they can put their hands up if they do not understand a question and want to ask for clarity (see, page 13, section – Qualtrics – Student Survey, highlighted in Green

**6.** None of the PISs note where the study has obtained ethical approval from. Please include this.

This has been addressed (see page 28, Parent PIS, section - ‘Will My Child’s Information Be Kept Confidential?’ last sentence; see page 32, Teacher PIS, section - ‘Will My Information Be Kept Confidential?’ last sentence, see page 35, Student PIS, last sentence of 1<sup>st</sup> paragraph).

**7.** When I click on the link for the teachers’ survey, the Qualtrics survey opens with the consent statements. There is no PIS here first – please include.

This has been addressed see Qualtrics Teacher Survey

[https://ulsterhealth.eu.qualtrics.com/jfe/form/SV\\_8HNfznpOmQZwuvr](https://ulsterhealth.eu.qualtrics.com/jfe/form/SV_8HNfznpOmQZwuvr)

**8.** Teacher consent form – please remove the following sentence, because it seems to confuse the issue of ‘which group you consent to participate in’, if the person may not be participating:  
*“Please let us know which group you consent to participate in by ticking only one box below...”*

This has been addressed and the sentence removed.

**9.** With regard to complete confidentiality, have the research team considered what may happen if a student expresses significant distress in their survey responses? Their student number could still be used to identify them.

The scales used are validated for adolescent use and are not considered to be diagnostic. However, the anxiety scale could be considered as such and I’m aware that cut off scores for caseness may be needed here. Nevertheless, I would argue that in relation to anxiety, it is expected due to covid-19 that anxiety rates may be high which can lead to false positives, in turn, triggering undue stress to participants. This ‘false positive’ finding will be included in the limitation section of the write-up. Only those students behaving in a distressed manner during the survey or claiming distress in class will be referred to the school pastoral team.

**10.** In the demographic questions for your student participants, you have included the option for “Black or African American”. This doesn’t seem to fit for your study in this part of the world. Also, there are only 3 ethnicities noted, as well as ‘other’, whereas there are more options available in the teachers’ survey – some more thought could be given to these options for ethnicity in this part of the world, as well as increasing the number of options.

This has been addressed, the ethnicity questions now include; White, White Irish Mincer, Asian, Black African, Hispanic/Latinx, Prefer not to say, and other. Both surveys reflect same. See Qualtrics Students Survey [https://ulsterhealth.eu.qualtrics.com/jfe/form/SV\\_43gI6fY0aBOV6HH](https://ulsterhealth.eu.qualtrics.com/jfe/form/SV_43gI6fY0aBOV6HH)

**11.** In the demographic questions for your participants, regarding gender, the students have 3 options, but the teachers have 4. Please adopt a consistent approach across these two groups.

This has been addressed, both surveys now are consistent (i.e. 4 options).

**The application and both pages of this form should now be returned to the Chief Investigator**

## **Appendix 17.** Participant Information Sheet (Parents)

### **Parent/Caregiver Information Sheet**



**Title of Project:** *Targeting Emotional Dysregulation Using Whole School Daily Mindfulness.*

Hello, my name is Justin MacLochlainn and I am a PhD researcher at Ulster University. I am writing to request your consent to allow your child to contribute to a research study looking at the effectiveness of a planned classroom-based audio-guided mindfulness programme being offered by Oakgrove Integrated College in the academic year 2020-21. Whilst your school is providing this to all school students, the evaluation of this programme will form part of my PhD thesis under the supervision of Dr Karen Kirby (C. Psychol.).

Please read the following information carefully. You are invited to ask as many questions about this study as you would like. You may want to discuss your child's participation in this study with other members of your family or your friends. Please take time to consider the following information and if you have any queries, please do not hesitate to contact me or my research supervisor to ask any questions about anything that is not clear to you.

We would like to thank you for taking time to consider this request.

#### **What Is This Study About?**

This research is evaluating a mindfulness programme called "Inner Explorer" which is being offered to all students at Oakgrove Integrated College. Inner Explorer is an audio-guided classroom-based curriculum that teaches students how to manage their emotions, behaviours, relationships, and how to make intelligent choices. The mindfulness programme will initially be given to half of all the form classes from late September until February 2021. The other classes will also receive the same programme from February until June 2021. The research team are interested to see if the mindfulness programme has an impact on students' wellbeing in areas such as happiness, over-thinking, emotions, stress, support, anxiety, and depression. The research team would like to compare the outcomes in children who take the programme from late September-February 2021 with students not taking the programme at this time. The team will also examine the impact of the programme on the children who take the programme from February-June 2021.

#### **What Is Mindfulness, and Why Has Your School Opted To Implement it This Year?**

Mindfulness is defined as "paying attention to the present moment, without judgement, and with curiosity and kindness". Mindfulness is a widely used and scientifically supported technique for reducing stress and enhancing wellbeing. Mindfulness based programmes propose to develop skills which students can practice and learn. School-based mindfulness has shown to decrease levels of adolescent anxiety and depression, over-thinking, risky behaviours, strong emotions such as anger and fear, and stress. Indeed, the scientific research suggests that mindfulness interventions build supports via healthy lifestyle behaviours such as partaking in physical exercise, increasing grade scores, emotional well-being, optimism, hope, and intent to benefit others. While some may think of mindfulness as being associated with a certain religious or spiritual tradition, mindfulness, as utilised in Western medicine and within this study, does **not** have any religious affiliations or content. Inner

Explorer is a secular (non-religious) programme established on scientific evidence-based techniques for the reduction of stress and the enhancement of well-being.

### **What Will Happen In The Study?**

If you decide to consent for your child to take part in this study, this is what will happen:

All children at the school are invited to participate in the research which involves asking them to complete a short online survey in school before and after the mindfulness programme (first run); September – February 2021) and once more at 3-month follow up in June. We are therefore asking you to consent to your child's participation in all three surveys which will take place in September 2020, February 2021, and again in June 2021.

Your child will be taught mindfulness-based exercises in their form class for 10 minutes each day. He/she will learn relaxation techniques and will be guided to observe their thoughts, emotions, and sensations with awareness and curiosity. They will also be introduced to skills to improve self-awareness, self-control, social awareness, responsible decision-making, kindness, gratitude, and compassion. The programme will run over 18 weeks, and though it is not necessary for your child to participate every day it is recommended for best outcomes.

### **The Survey**

The survey will involve answering questions on age, gender, ethnicity along with questions on well-being and mental health outcomes. The survey will be conducted during school hours by the chief investigator Dr Karen Kirby. Your child will be asked to attend the school computer lab accompanied by a dedicated school staff member to complete the survey before the programme starts and again at a convenient time immediately after the programme ends and once more at 3-month follow up. The survey will take less than 30 minutes to complete. Your child will not be asked to stay after class for this survey.

**Parent(s)/Caregiver(s):** If you consent to your child to take part in the survey, you will also be invited to participate in daily practice of the same Mindfulness programme using the Inner Explorer app. This is entirely voluntary on your part; however, daily practice will provide you with the opportunity to learn the same skills that your child will learn and will allow you to experience the programme for yourself. At the end of the study, students will be asked whether any of their parents/caregivers practiced mindfulness. We are looking to find out whether parental practice improves student outcomes compared to student practice alone.

### **What Are The Costs?**

There will be no cost for participating and the Mindfulness app is being made freely available to all students, parents/caregivers and their families.

### **What Are The Possible Risks And Discomforts?**

It is possible that your child might experience unpleasant thoughts and emotions as a result of direct or indirect participation in this study. Your child will be encouraged to notify a teacher or other staff member if this occurs. Teachers and staff will be asked to notify parents in such a case.

**Please note, if your child completes the survey and their response indicate high anxiety or high depression, the researcher will provide the school pastoral care co-ordinator with that student's ID number via a general report (i.e. a list of students whose scores were very high on anxiety or depression measures), the researchers have no access to the student's name or personal details and will only use student's ID numbers within this report. The pastoral care co-ordinator will speak with the student concerned to offer support and signpost to relevant services, such as the school guidance counsellor. Based on this interview between the student, pastoral care co-**

**ordinator, and the school counsellor, a decision will be made about making the student's parent(s)/caregiver(s) aware. Occasionally, referral to CAMH teams will be deemed appropriate.**

### **What Are The Possible Benefits?**

It is possible that your child may experience improvements in emotional wellbeing and mood as a result of participating in the mindfulness programme. It is also possible that improvements may occur in those students who do not take part in the programme. This study sets out to investigate whether there is a difference between these two groups. This will help inform future educational approaches and curriculum development.

### **Will My Child's Information Be Kept Confidential?**

In order to protect confidentiality, your child will not be asked for any personal identifying information. All children will put their school student ID number on the questionnaire. The ID number will ONLY be used to match up survey responses from the three time-points so they can be compared. Parents can request removal of their child's data up to 4 weeks after the final survey (July 2021). After that time, the data will be completely anonymised as student ID numbers will be permanently removed from the dataset. All the information provided will be anonymised and this data will be retained by the chief investigator in a secure location at Ulster University for a minimum of 10 years in line with Data Protection legislation and Ulster University research governance policies on retention and storage of personal data. Ethical approval for this study has been granted by the Ulster University Research Committee (UREC).

### **Compliance with GDPR and the Data Protection Act 2018**

Ulster University is the sponsor or managing organisation of this study and I will use information gathered from your child to carry this study out. I will act as the data controller, which means that I am responsible for looking after your child's information and using it properly, as stipulated in the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. This means that when you consent for your child to take part in this study, I will use your child's data to conduct the research and analyse the information and findings, however, in this study I am not collecting any data that can personally identify your child. By completing the consent form on the following page, you are giving your permission for me to use your child's non-identifiable data. You can find out more about how Ulster University look after research data at:

<https://www.ulster.ac.uk/about/governance/compliance/gdpr>

### **Withdrawal From The Study**

You and/or your child have the right to refuse to participate in the survey, decline to complete the survey, and withdraw from the survey at any time with no consequences.

**If you would like to withdraw from this study, please contact me (Dr Karen Kirby) quoting your student ID number only. In this instance, please do not provide your name (You can withdraw up to 4 weeks following the final-round of data-collection. After that point, data will be completely anonymised).**

### **Who Can I Contact With Questions?**

You may contact the researcher, Justin MacLochlainn, with any questions or concerns about your child's participation in this study: [maclochlainn-j@ulster.ac.uk](mailto:maclochlainn-j@ulster.ac.uk). You may also contact the Chief Investigator of this study, Dr Karen Kirby: [k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk); +44 28 7012 3654.

### **What Happens When The Study Is Over?**

You may request a copy of the anonymised results of the study when it is completed in September 2021 by either emailing the researcher, or alternatively, contacting the school principal. Students will be encouraged to ask questions about the study at this time.

**If you decide you want your child to take part in this survey, please complete the consent form supplied with this information sheet and return it to the school office at Oakgrove Integrated College at your earliest convenience.**

**We hope you will find little to complain about while participating in this research but if you do bring concerns to our attention you can be sure that they will be treated seriously and every effort made to ensure their satisfactory resolution. Please follow this link for more information on Ulster University's complaint process.**

**[https://www.ulster.ac.uk/\\_data/assets/pdf\\_file/0011/75638/Complaints.pdf](https://www.ulster.ac.uk/_data/assets/pdf_file/0011/75638/Complaints.pdf)**

**Covid-19 Contingency Plan**

As the intervention is the responsibility of the school it will continue as part of the online daily form class if required by another lockdown. Should lockdown occur, we will issue the survey via the form teacher who will use google classroom to ask the students to complete.

**Appendix 18.** Consent Form (Parents)**Parent/Caregiver Consent Form****Statement of Consent**

*Targeting Emotional Dysregulation Using Whole School Daily Mindfulness.*

Date of commencement: During the 2020/2021 academic year.

**Please tick**

I have read the information provided above.

I have been given the opportunity to ask questions about the study.

I consent to my child's participation in the study.

If consenting to your child's participation in the study, you are also invited to participate in daily practice of the programme via the Inner Explorer app. If you choose to practice, please PRINT your email address (below) in clear writing and we will send you the invitational link to the app (**not compulsory**).

Email address \_\_\_\_\_

**OR**

I do **not** consent to my child's participation in this study.

\_\_\_\_\_  
Name of Child

\_\_\_\_\_  
Form Class

\_\_\_\_\_  
Name of Parent

\_\_\_\_\_  
Parent Signature

\_\_\_\_\_  
Date

Contact Details:

Doctoral Researcher: Justin MacLochlainn; ([macLochlainn-J@ulster.ac.uk](mailto:macLochlainn-J@ulster.ac.uk))

Chief Investigator: Dr. Karen Kirby ([k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk))

## **Appendix 19.** Participation Information Sheet (Teachers)

### **Teacher Information Sheet**



**Title of Project:** *Targeting Emotional Dysregulation Using Whole School Daily Mindfulness.*

Hello, my name is Justin MacLochlainn and I am a PhD researcher at Ulster University. I am writing to request your consent to contribute to a research study looking at the effectiveness of a planned classroom-based audio-guided mindfulness programme being offered by Oakgrove Integrated College in the academic year 2020-21. This study will form part of my PhD thesis under the supervision of Dr Karen Kirby (C. Psychol.)

Please read the following information carefully. You are invited to ask as many questions about this study as you would like. Please take time to consider the following information and if you have any queries, please do not hesitate to contact me or my research supervisor to ask any questions about anything that is not clear to you.

We would like to thank you for taking time to consider this request.

#### **What Is This Study About?**

This research is evaluating a programme called “Inner Explorer”. Inner Explorer is a classroom-based social and emotional curriculum using mindfulness that teaches students how to manage their emotions, behaviours, relationships, and how to make intelligent choices. The programme will run in two runs. The first run will run from September 2020 to February 2021. The second run will run from February 2021 to June 2021. We would like to learn whether the programme has an impact on students’ emotional regulation, stress, resilience, and other mental health outcomes. You are invited to participate because you are a teacher from a school that has expressed interest in participating in this research. We are attempting to enrol as many teachers as possible as this programme will be available to all year students and teachers within the school. Teachers that consent to completing a pre- and post- survey will do so at three time-points throughout the 2020/2021 academic year.

#### **What Is Mindfulness?**

Mindfulness is defined as “paying attention to the present moment, without judgement, and with curiosity and kindness”. Mindfulness is a widely used and scientifically supported technique for reducing stress and increasing wellbeing. Mindfulness based interventions propose to develop skills which students can practice and learn. School-based mindfulness has shown to decrease levels of adolescent anxiety and depression, rumination, negative coping, intrusive thoughts, emotional arousal and stress. Indeed, the scientific research suggests that mindfulness interventions build resilience via healthy lifestyle behaviours such as partaking in physical exercise, increasing grade scores, emotional well-being, optimism, hope, and prosocial behaviours. While some may think of mindfulness as being associated with a certain religious or spiritual tradition, mindfulness, as utilised in Western medicine and within this study, does not have any religious affiliations or content. Inner Explorer is a secular (non-religious) programme established on scientific evidence-based techniques for the reduction of stress and the enhancement of well-being.

### **What Will Happen In The Study?**

If you decide to consent this is what will happen:

As well as collecting some information from the students, we would also like to collect some information from you via an online survey. The survey will involve completion of demographic information (age, gender, ethnicity) along with questions relating to the characteristics that we are exploring such as well-being, stress, and burnout. This will require approximately 20 minutes at both the beginning and end of the first run (September 2020 – February 2021), and once more at 3-month follow-up (June 2021). You are encouraged to follow the mindfulness lessons daily in the first run of the mindfulness intervention. In the second survey (February 2021) we will ask you a question relating to this practice to determine whether the practice of mindfulness improves outcomes we are measuring.

### **What Are The Costs?**

There will be no cost for participating. All research tests and procedures are provided by the researcher.

### **What Are The Possible Risks And Discomforts?**

It is possible that you might experience unpleasant thoughts and emotions as a result of direct or indirect participation in this study. If you feel like you are distressed because of your experience with the study, you will be provided recommendations for seeking treatment and support. Many of the questions within the survey relate to teacher stress, burnout, and well-being. Your responses today will help us get a better understanding about issues teachers are experiencing. However, if you are feeling in any way distressed, worried, or sad about some of the issues that were discussed it is very important that you see your G.P., or an Employee Assistance Program may be available by your employer. Check out the staff care policy at your school.

However, if you feel that you can not approach your G.P. or have access to an Employee Assistance Program, you could call a helpline. Helplines will provide advice, information, or just a friendly ear that you can speak to.

Useful helplines:

- A) Lifeline (helpline) Tel: 0808 808 8000
- B) Samaritans (listening service) Tel: 166 123, or go online [www.samartians.org](http://www.samartians.org)
- C) Employee Assistance Programme Tel: 08000 562 561 TXT: 07909 341229

### **What Are The Incentives And Possible Benefits?**

It is possible that you may see an improvement in domains such as concentration, emotional regulation, stress, resilience, burnout and interpersonal skills as a result of participating in the Inner Explorer programme.

### **Will My Information Be Kept Confidential?**

In order to protect confidentiality, you will not be asked for any personal identifying information. All teachers will be asked to use the last four digits of their phone number, this will provide the researcher with a unique ID number for data matching purposes. All the information provided will be anonymous and all data will be treated in a confidential manner and retained in a secure location at Ulster University for a minimum of 10 years in line with Data Protection legislation and Ulster

University research governance rules on retention and storage of personal data. Ethical approval for this study has been granted by the Ulster University Research Committee (UREC).

### **Compliance with GDPR and the Data Protection Act 2018**

Ulster University is the sponsor or managing organisation of this study and I will use information gathered from you to carry this study out. I will act as the data controller, which means that I am responsible for looking after your information and using it properly, as stipulated in the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. This means that when you consent to take part in this study, I will use your data to conduct the research and analyse the information and findings, however, in this study I am not collecting any data that can personally identify you. By completing the consent form on the following page, you are giving your permission for me to use your non-identifiable data. You can find out more about how Ulster University look after research data at: <https://www.ulster.ac.uk/about/governance/compliance/gdpr>

### **Opting Out Of The Study**

You have the right to decline to complete the survey, and/or withdraw from the survey at any time with no consequences, this will be the case up to 4 weeks following the final round of data collection. This will not affect your participation in the Inner Explorer programme. Your decision to participate, or not, will not affect your status as a teacher at the school.

### **Who Can I Contact With Questions?**

You may contact the researcher, Justin MacLochlainn, with any questions or concerns about your participation in this study: [maclochlainn-j@ulster.ac.uk](mailto:maclochlainn-j@ulster.ac.uk). You may also contact the Chief Investigator of this study, Dr Karen Kirby: [k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk); +44 28 7012 3654.

### **What Happens When The Study Is Over?**

You may request a copy of the anonymised results of the study when it is completed in September 2021 by either emailing the researcher, or alternatively, contacting the school principal'. Both participants and non-participants will be debriefed at the end of the study. You will be encouraged to ask questions about the outcomes of the study at this time.

**If you decide to participate in this study, please complete the consent form (supplied with this information sheet) and return it to the school office at Oakgrove Integrated College at your earliest convenience.**

**We hope you will find little to complain about while participating in this research but if you do bring concerns to our attention you can be sure that they will be treated seriously and every effort made to ensure their satisfactory resolution. Please follow this link for more information on Ulster University's complaint process.**

[https://www.ulster.ac.uk/\\_data/assets/pdf\\_file/0011/75638/Complaints.pdf](https://www.ulster.ac.uk/_data/assets/pdf_file/0011/75638/Complaints.pdf)

**Please click the link to gain access to the survey**

[https://ulsterhealth.eu.qualtrics.com/jfe/form/SV\\_8HNfznpOmQZwuvr](https://ulsterhealth.eu.qualtrics.com/jfe/form/SV_8HNfznpOmQZwuvr)

### **Covid-19 Contingency Plan**

Should lockdown occur, teachers will be able to access the programme remotely via a link. The link to the programme will be sent out to participating teachers by the school principal.

**Appendix 20.** Consent Form (Teachers)

**Teacher Consent Form**



**Statement of Consent**

*Targeting Emotional Dysregulation Using Whole School Daily Mindfulness.*

Date of commencement: During the 2020/2021 academic year.

**Please tick**

I have read the information provided above. [ ]

I have been given the opportunity to ask questions about the study. [ ]

**Please tick**

I consent to my participation in this study and understand that I have the right to withdraw at any time without consequence (you can withdraw up to 4 weeks following the final-round of data-collection. After that point, data will be completely anonymised). [ ]

**OR**

I do **not** consent to my participation in this study. [ ]

Contact Details:

Doctoral Researcher: Justin MacLochlainn; ([macLochlainn-J@ulster.ac.uk](mailto:macLochlainn-J@ulster.ac.uk))

Chief Investigator: Dr. Karen Kirby ([k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk))

**Please click the link to gain access to the survey** <https://bit.ly/2UAJgCD>

## **Appendix 21.** Participants Information Sheet (Students)

### **Student Information Sheet**



Hello, my name is Justin MacLochlainn and I am a PhD researcher at Ulster University. I am writing to ask for your consent to take part in a research study looking at the usefulness of a mindfulness programme being offered by Oakgrove Integrated College in the academic year 2020-21. This study will form part of my PhD thesis under the supervision of Dr Karen Kirby (C. Psychol.). Ethical approval for this study has been granted by the Ulster University Research Committee (UREC).

Please read the following information carefully. You are invited to ask as many questions about this study as you would like.

We would like to thank you for taking time to consider this request.

#### **What Is This Study About?**

We want to learn more about a mindfulness programme called “Inner Explorer”. Inner Explorer teaches students how to manage their emotions, behaviours, relationships, and how to make intelligent choices. We would like to learn whether it helps young people cope with difficult feelings.

#### **What Will Happen In The Study?**

If you decide to take part in the study this is what will happen:

We will ask you to answer some questions at the beginning and after the first run of Inner Explorer is completed and then once more at 3-month follow-up. The questions will be computer-based and will be multiple choice. Unlike your exams, these questions do not have right or wrong answers, so you have no need to worry at all. It is important that you know that your answers are **confidential**, this means no one will know what answers you give.

**However, please note, if you complete the survey and your response indicates very high anxiety or very high depression, the researcher will provide the school pastoral care co-ordinator with your student ID number. The pastoral care co-ordinator will speak with you to offer support and signpost to relevant services (as listed on the debrief sheet). Any student that scores very high anxiety or very high depression, their parent(s)/caregiver(s) may be notified by the school's pastoral care team.**

#### **What Are The Possible Risks And Discomforts?**

It is possible that you might experience unpleasant thoughts and emotions as a result of participation in this study. These risks will be minimised by having help available. If you feel like you are distressed because of your experience with completing the study, you will be provided recommendations for seeking treatment and support. **'Please note, if you complete the survey and your responses indicate high anxiety or high depression, the researcher will provide the school pastoral care co-ordinator with your ID number via a general report (i.e. a list of students whose scores were very high on anxiety or depression measures), the researchers have no access your**

name or personal details and will only use student's ID numbers within this report. The pastoral care co-ordinator will speak with you to offer support and signpost to relevant services, such as the school guidance counsellor. Based on this interview between you, the pastoral care co-ordinator, and the school counsellor, a decision will be made about making your parent(s)/caregiver(s) aware. Occasionally, referral to CAMH teams will be deemed appropriate'

### **Withdrawal From The Study**

You have the right to refuse to participate in the survey, decline to complete the survey, and withdraw from the survey at any time with no consequences. Your decision to take part, or not, does not affect your status or grades as a student at the school.

**If you would like to withdraw from this study, please contact me (Dr Karen Kirby) quoting your student ID number only. In this instance, please do not provide your name (You can withdraw up to 4 weeks following the final-round of data-collection. After that point, data will be completely anonymised).**

### **Who Can I Contact With Questions?**

You may contact the researcher, Justin MacLochlainn, with any questions or concerns about your participation in this study: [maclochlainn-j@ulster.ac.uk](mailto:maclochlainn-j@ulster.ac.uk). You may also contact the Chief Investigator of this study, Dr Karen Kirby: [k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk); +44 28 7012 3654.

**You have the right to refuse to participate in the study, decline to complete the survey, and withdraw from the study at any time with no consequences. This will not affect your grades or anything else at school.**

**If you decide to participate in this study, please complete the assent form supplied with this information sheet.**

### **Covid-19 Contingency Plan**

As the intervention is the responsibility of the school it will continue as part of the online daily form class if required by another lockdown. Should lockdown occur, we will issue the survey via the form teacher who will use google classroom to ask the students to complete.

## **Appendix 22.** Assent Form (Students)

### **Student Assent Form**



### **Statement of Assent**

*Targeting Emotional Dysregulation Using Whole School Daily Mindfulness.*

Date of commencement: During the 2020/2021 academic year.

#### **Please tick**

I have read the information provided above.

I have been given the opportunity to ask questions about the study.

I consent to take part in the survey and understand that I have the right to withdraw up to 4 weeks following the final-round of data-collection. After that point, data will be completely anonymised).

#### **OR**

I do **not** consent to take part in this survey.

#### **Contact Details:**

Doctoral Researcher: Justin MacLochlainn; ([macLochlainn-J@ulster.ac.uk](mailto:macLochlainn-J@ulster.ac.uk))

Chief Investigator: Dr. Karen Kirby ([k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk))

## Appendix 23. RG3 Filter Committee Report Form

UNIVERSITY OF ULSTER

RESEARCH GOVERNANCE

### RG3 Filter Committee Report Form

Project Title	Targeting Emotional Dysregulation Using Whole School Trauma-Informed Audio-Guided Daily Mindfulness: A Bronfenbrenner Systemic Framework Including Students, Teachers and Caregivers
Chief Investigator	Dr Karen Kirby
Filter Committee	Psychology

This form should be completed by Filter Committees for all research project applications in categories A to D (\*for categories A, B, and D the University's own application form – RG1a and RG1b – will have been submitted; for category C, the national, or ORECNI, application form will have been submitted).

Where substantial changes are required the Filter Committee should return an application to the Chief Investigator for clarification/amendment; the Filter Committee can reject an application if it is thought to be unethical, inappropriate, incomplete or not valid/viable.

**Only when satisfied that its requirements have been met in full and any amendments are complete, the Filter Committee should make one of the following recommendations:**

The research proposal is complete, of an appropriate standard and is in

- category A and the study may proceed\*
- category B and the study must be submitted to the University's Research Ethics Committee\*\* Please indicate briefly the reason(s) for this categorisation   
Participants are under 18 years old
- category C and the study must be submitted to ORECNI along with the necessary supporting materials from the Research Governance Section\*\*\*
- category D and the study must be submitted to the University's Research Ethics Committee\*\*

Signed:

Date: 17.06.20

\*The application form and this assessment should now be returned to the Chief Investigator. The Filter Committee should retain a copy of the complete set of forms.

\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can submit the application to the UUREC via the Research Governance section. The Filter Committee should retain a copy of the complete set of forms for their own records.

\*\*\* The application form and this assessment should now be returned to the Chief Investigator so that he/she can prepare for application to a NRES/ORECNI committee. The Filter Committee should retain a copy of the complete set of forms for their own records.

**For all categories, details of the application and review outcome should be minuted using the agreed format and forwarded to the Research Governance section**

## Appendix 24. Audio-Guided Mindfulness Practices (n = 90)



### Inner Explorer Audio-Guided Mindfulness

<https://innerexplorer.org/>

Free access due to Covid-19 download app below:

[https://innerexplorer.org/compass/family\\_onboarding](https://innerexplorer.org/compass/family_onboarding)

Inner Explorer Audio-Guided Lessons (90) below:

Title	Voice	Time
<a href="#">1. Intro to Inner Explorer</a>	Laura Bakosh	8:31
<a href="#">2. Intro - Breathing &amp; Relaxation</a>	Angelina Alvarez	8:59
<a href="#">3. Intro - Abdominal Breathing</a>	JusTme	8:21
<a href="#">4. Intro - Observing Thoughts</a>	Laura Bakosh	8:50
<a href="#">5. Intro - Start with the Heart (SWTH)</a>	Angelina Alvarez	8:50
<a href="#">6. Awareness of Body - Sitting</a>	JusTme	10:00
<a href="#">7. Awareness of Body - Movement Shoulders</a>	Laura Bakosh	10:00
<a href="#">8. Awareness of Body - General</a>	Angelina Alvarez	9:59
<a href="#">9. Awareness of Body Movement - Hand in Hand</a>	JusTme	9:57
<a href="#">10. Body Scan - 1</a>	Laura Bakosh	10:00
<a href="#">11. Breathing - Abdominal Breathing</a>	Angelina Alvarez	10:00
<a href="#">12. Breathing - Mindful Minute</a>	JusTme	10:00
<a href="#">13. Growth Mindset</a>	Laura Bakosh	10:00
<a href="#">14. Breathing - Anchoring - Steady the ship</a>	Angelina Alvarez	10:00
<a href="#">15. Comfortable Quiet - 4 minutes</a>	JusTme	10:00
<a href="#">16. Awareness of Body Movement - Face</a>	Laura Bakosh	10:00
<a href="#">17. Awareness of Body Movement - Neck</a>	Angelina Alvarez	9:59
<a href="#">18. Awareness of Body Movement - Arms</a>	JusTme	9:59
<a href="#">19. Awareness of Body Movement - Side to Side</a>	Laura Bakosh	10:00

<a href="#"><u>20. Progressive Relaxation - 1</u></a>	Angelina Alvarez	10:00
<a href="#"><u>21. Poetry - The Guest House – Rumi</u></a>	JusTme	9:54
<a href="#"><u>22. Breathing - Take 10</u></a>	Laura Bakosh	9:59
<a href="#"><u>23. Breathing - The Nose Knows</u></a>	Angelina Alvarez	10:00
<a href="#"><u>24. Breathing - The Space Between</u></a>	JusTme	10:00
<a href="#"><u>25. Body Scan - 2</u></a>	Laura Bakosh	10:00
<a href="#"><u>26. Senses - Sound</u></a>	Angelina Alvarez	10:00
<a href="#"><u>27. Senses - Smell</u></a>	JusTme	9:59
<a href="#"><u>28. Comfortably Quiet - 4.5 minutes</u></a>	Laura Bakosh	9:57
<a href="#"><u>29. Senses - Touch</u></a>	Angelina Alvarez	9:59
<a href="#"><u>30. Senses - Sight</u></a>	Laura Bakosh	10:00
<a href="#"><u>31. Start with the Heart - Loved one/Self</u></a>	Laura Bakosh	10:00
<a href="#"><u>32. Start with the Heart - Neutral/Self</u></a>	Angelina Alvarez	10:00
<a href="#"><u>33. Start with the Heart - Dislike/Self</u></a>	Laura Bakosh	10:00
<a href="#"><u>34. Start with the Heart - All living things/Self</u></a>	Laura Bakosh	10:00
<a href="#"><u>35. Compassion - Kindness</u></a>	Angelina Alvarez	10:00
<a href="#"><u>36. Senses - Taste</u></a>	JusTme	9:59
<a href="#"><u>37. Senses - Gut (6th sense)</u></a>	Laura Bakosh	10:00
<a href="#"><u>38. Senses - Sound - Soothing</u></a>	Angelina Alvarez	10:00
<a href="#"><u>39. Senses - Sound - Disruptive</u></a>	JusTme	10:00
<a href="#"><u>40. Progressive Relaxation - 2</u></a>	Laura Bakosh	9:42
<a href="#"><u>41. Thoughts - Chattering Mind</u></a>	Angelina Alvarez	10:00
<a href="#"><u>42. Thoughts - Slow Down</u></a>	JusTme	9:47
<a href="#"><u>43. Thoughts - Cherokee Take</u></a>	Laura Bakosh	9:59
<a href="#"><u>44. Thoughts - Open Awareness</u></a>	Angelina Alvarez	10:00
<a href="#"><u>45. Comfortable Quiet - 5 minutes</u></a>	JusTme	10:00
<a href="#"><u>46. Start with the Heart - All</u></a>	Laura Bakosh	10:10
<a href="#"><u>47. Emotions - Love Unlove</u></a>	Laura Bakosh	10:00
<a href="#"><u>48. Compassion - Forgiveness</u></a>	Laura Bakosh	10:00
<a href="#"><u>49. Progressive Relaxation</u></a>	Laura Bakosh	10:00
<a href="#"><u>50. Comfortable Quiet - 6 minutes</u></a>	Harris Cox	10:00

<a href="#"><u>51. Change - Seen</u></a>	Laura Bakosh	10:00
<a href="#"><u>52. Change - UnSeen</u></a>	Laura Bakosh	10:00
<a href="#"><u>53. Change of Heart</u></a>	Laura Bakosh	10:00
<a href="#"><u>54. Start with the Heart - Loved One</u></a>	Harris Cox	10:00
<a href="#"><u>55. Body Scan</u></a>	David Victorson	10:00
<a href="#"><u>56. Choice - Pause</u></a>	Laura Bakosh	10:00
<a href="#"><u>57. Choice - Feeling State</u></a>	Laura Bakosh	10:00
<a href="#"><u>58. Thoughts Carried Away</u></a>	Laura Bakosh	10:00
<a href="#"><u>59. Breathing - Acceptance</u></a>	Laura Bakosh	10:00
<a href="#"><u>60. Comfortable Quiet - 6 minutes</u></a>	Harris Cox	10:00
<a href="#"><u>61. Breathing - Abdominal</u></a>	Laura Bakosh	10:00
<a href="#"><u>62. Relax - Mindful Minute</u></a>	Laura Bakosh	10:00
<a href="#"><u>63. Breathing - Take 10</u></a>	Laura Bakosh	10:00
<a href="#"><u>64. Breathing - Anchoring</u></a>	Laura Bakosh	10:00
<a href="#"><u>65. Progressive Relaxation</u></a>	Harris Cox	10:00
<a href="#"><u>66. Connection - Its Natural</u></a>	Laura Bakosh	10:00
<a href="#"><u>67. Connection - Cause and Effect</u></a>	Laura Bakosh	10:00
<a href="#"><u>68. Connection - Differences</u></a>	Laura Bakosh	10:20
<a href="#"><u>69. Connection - Helping Hand</u></a>	Laura Bakosh	10:00
<a href="#"><u>70. Body Scan</u></a>	Harris Cox	10:00
<a href="#"><u>71. Relax - Neck in Neck</u></a>	Laura Bakosh	10:00
<a href="#"><u>72. Breathing - Vagal</u></a>	Laura Bakosh	10:00
<a href="#"><u>73. Senses - 6th Sense</u></a>	Laura Bakosh	10:00
<a href="#"><u>74. Thoughts - Curiosity</u></a>	Laura Bakosh	10:00
<a href="#"><u>75. Comfortable Quiet - 6 minutes Silence</u></a>	David Victorson	10:00
<a href="#"><u>76. Emotions - Love Unlove</u></a>	Laura Bakosh	10:00
<a href="#"><u>77. Emotions - Kindness Meanness</u></a>	Laura Bakosh	10:00
<a href="#"><u>78. Emotions - Confidence Fear</u></a>	Laura Bakosh	10:00
<a href="#"><u>79. Emotions - Happiness Sadness</u></a>	Laura Bakosh	10:00
<a href="#"><u>80. Body Scan</u></a>	David Victorson	10:00
<a href="#"><u>81. Start with the Heart - Loved One</u></a>	Harris Cox	10:00

<a href="#"><u>82. Start with the Heart - Neutral</u></a>	Laura Bakosh	10:00
<a href="#"><u>83. Start with the Heart - Dislike</u></a>	Laura Bakosh	10:00
<a href="#"><u>84. Compassion - Kindness</u></a>	Laura Bakosh	10:00
<a href="#"><u>85. Body Scan</u></a>	Harris Cox	10:00
<a href="#"><u>86. Breathing Mindful Minute</u></a>	Laura Bakosh	10:00
<a href="#"><u>87. Start with the Heart - All</u></a>	Laura Bakosh	10:10
<a href="#"><u>88. Compassion - Gratitude</u></a>	Laura Bakosh	10:00
<a href="#"><u>89. Forgiveness</u></a>	Harris Cox	10:00
<a href="#"><u>90. Comfortable Quiet - 6 minutes Silence</u></a>	David Victorson	10.00

## Appendix 25. Rumination Scale



**Research  
and Impact**

### Rumination Scale

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you generally do, not what you think you should do.

1 almost never                  2 sometimes                  3 often                  4 almost always

1. think about how alone you feel
2. think "I won't be able to do my job if I don't snap out of this"
3. think about your feelings of fatigue and achiness
4. think about how hard it is to concentrate
5. think "What am I doing to deserve this?"
6. think about how passive and unmotivated you feel.
7. analyze recent events to try to understand why you are depressed
8. think about how you don't seem to feel anything anymore
9. think "Why can't I get going?"
10. think "Why do I always react this way?"
11. go away by yourself and think about why you feel this way
12. write down what you are thinking about and analyze it
13. think about a recent situation, wishing it had gone better
14. think "I won't be able to concentrate if I keep feeling this way."
15. think "Why do I have problems other people don't have?"
16. think "Why can't I handle things better?"
17. think about how sad you feel.
18. think about all your shortcomings, failings, faults, mistakes

19. think about how you don't feel up to doing anything
20. analyze your personality to try to understand why you are depressed
- 21.go someplace alone to think about your feelings
22. think about how angry you are with yourself

## **Appendix 26.** Difficulties in Emotional Regulation Scale



### Difficulties in Emotional Regulation Scale – Short Form (DERS-SF)

Please indicate how often the following apply to you

Almost never (1), sometimes (2), about half of the time (3), most of the time (4), almost always (5)

1. I pay attention to how I feel
2. I have no idea how I am feeling
3. I have difficulty making sense out of my feelings
4. I care about what I am feeling
5. I am confused about how I feel
6. When I am upset, I acknowledge my emotions
7. When I am upset, I become embarrassed for feeling that way
8. When I am upset, I have difficulty getting work done
9. When I am upset, I become out of control
10. When I am upset, I believe that I will end up feeling very depressed
11. When I am upset, I have difficulty focusing on other things
12. When I am upset, I feel guilty for feeling that way
13. When I am upset, I have difficulty concentrating
14. When I am upset, I have difficulty controlling my behaviours
15. When I am upset, I believe there is nothing I can do to make myself feel better
16. When I am upset, I become irritated with myself for feeling that way
17. When I am upset, I lose control over my behaviour
18. When I am upset, it takes me a long time to feel better

## Appendix 27. Perceived Stress Scale



### The Perceived Stress Scale (PSS)

The questions in this scale ask about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them, and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way; rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives: 'never' (0), 'almost never' (1), 'sometimes' (2), 'fairly often' (3), 'very often' (4)

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and stressed?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that have happened that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

## Appendix 28. Resilience Scale



### Child and Youth Resilience Measure (CYRM-R)

To what extent do the following statements apply to you? There are no right or wrong answers.

'not at all' (1), 'a little' (2), 'somewhat' (3), 'quite a bit' (4), 'a lot' (5)

1. I get along with people around me
2. Getting an education is important to me
3. I know how to behave/act in different situations (such as school, home, and church)
4. My parent(s)/caregiver(s) really look out for me
5. My parent(s)/caregiver(s) know a lot about me (for example, who my friends are, what I like to do)
6. If I am hungry, there is enough to eat
7. People like to spend time with me
8. I talk to my family/caregiver(s) about how I feel (for example, when I am hurt or sad)
9. I feel supported by my friends
10. I feel that I belong/belonged at my school
11. My family caregiver(s) care about me when times are hard (for example if I am sick or have done something wrong)
12. My friends care about me when times are hard (for example if I am sick or have done something wrong)
13. I am treated fairly in my community
14. I have chances to show others that I am growing up and can do things by myself
15. I feel safe when I am with my family/caregiver(s)
16. I have chances to learn things that will be useful when I am older (like cooking, working, and helping others)
17. I like the way my family/caregiver(s) celebrate things (like holidays or learning about my culture)

## Appendix 29. PHQ-8 Scale



### The Patient Health Questionnaire (PHQ-8)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

'not at all' (0), 'several days' (1), 'more than half the days' (2), and 'nearly every day' (3)

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself- or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual

## Appendix 30. GAD-7 Scale



**Research  
and Impact**

### The Generalised Anxiety Disorder Scale (GAD-7)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

'not at all' (0), 'several days' (1), 'more than half the days' (2), and 'nearly every day' (3)

1. Feeling nervous, anxious, or on edge
2. Not being able to stop or control worrying
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it's hard to sit still
6. Becoming easily annoyed or irritable
7. Feeling afraid as if something awful might happen

## Appendix 31. WEMWBS Scale



The Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS; for teachers only)

Instructions: Below are several statements about feelings and thoughts. Using the response scale below, please tick the box that best describes your experiences of each over the last 2 weeks

None of the time (1)    Rarely (2)    Some of the time (3)    Often (4)    All of the time (5)

1. I've been feeling optimistic about the future
2. I've been feeling useful
3. I've been feeling relaxed
4. I've been feeling interested in other people
5. I've had energy to spare
6. I've been dealing with problems well
7. I've been thinking clearly
8. I've been feeling good about myself
9. I've been feeling close to other people
10. I've been feeling confident
11. I've been able to make up my own mind about things
12. I've been feeling loved
13. I've been interested in new things
14. I've been feeling cheerful

## Appendix 32. Debrief Sheet



### Qualtrics Student Debrief Sheet

Many of the questions you answered today are related to young people's mental health. Your responses today will help us get a better understanding about issues people your age are experiencing.

However, if you are feeling in any way distressed, worried, or sad about some of the issues that were discussed today it is very important that you speak with your parent(s)/caregiver(s), see your doctor, or let your form teacher or another adult within the school know. They can arrange for you to visit with the school counsellor who is there to help you.

However, if you feel that you can not approach your family, G.P. form teacher, or another adult within the school, you could call a helpline. Helplines will provide advice, information, or just a friendly ear that you can speak to.

Useful helplines:

- |               |                     |   |
|---------------|---------------------|---|
| A) Childline  | (helpline)          | Tel: 0800 11 11   |
| B) Lifeline   | (helpline)          | Tel: 0808 808 8000  |
| C) Samaritans | (listening service) | Tel: 166 123, or go online <a href="http://www.samartians.org">www.samartians.org</a> |

We will give you some helpful contact information before you leave the computer lab today. This information will outline different ways in which you can seek help if you feel you need it.

Thank you for taking part today.

**If you would like to withdraw from this study, please contact me (Dr Karen Kirby) quoting your student ID number only. In this instance, please do not provide your name (You can withdraw up to 4 weeks following the final-round of data-collection. After that point, data will be completely anonymised).**

**Please see below for my contact information.**

Dr Karen Kirby, PhD, MSc, BSc (Hons)

Chartered Psychologist (BPS) & Registered Practitioner Psychologist (HcPC)

Lecture in Psychology at Ulster University

Email: [k.kirby@ulster.ac.uk](mailto:k.kirby@ulster.ac.uk) Tel: 028 7012 3654

**Appendix 33.** Diagram of Systematic Search