Trauma-Informed Approaches in Schools: The Efficacy of the 'Trauma-Sensitive Schools Training Package'

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Abstract

Background

Experiencing childhood trauma can cause substantial negative lifelong outcomes. Research demonstrates educational settings may mitigate against these adverse effects by adopting whole-school, trauma-sensitive approaches.

Aims

The current study aimed to evaluate the impact of Modules 1 and 2 of the professional development intervention known as the 'Trauma-Sensitive Schools Training Package' (TSSTP; Guarino & Chagnon, 2018) on a range of education staff variables. All target variables were identified as essential in the successful implementation of interventions in educational settings. Additionally, this study aimed to augment the literature base in the area by becoming the first Irish study to explore the impact of an intervention of this kind.

Sample

The intervention group consisted of school staff (n=40) in a DEIS Band 2 co-educational primary school in Ireland including teachers (n=28), SNAs (n=10), the school principal and the school psychologist. The wait-list control group consisted of teachers (n=19) in a similar DEIS Band 2 primary school in the same locality.

Method

A quasi-experimental, non-equivalent wait-list control group design and sequential explanatory mixed-methods were utilized. Six standardised quantitative measures were undertaken at pre- and post-intervention with participants across both groups. Post-intervention semi-structured interviews were conducted with participants from the intervention school only.

Results

Significant improvements were observed with teachers and SNAs in the intervention group from pre- to post-intervention. These included all quantitative measures related to knowledge and awareness of trauma, with these findings echoed in the qualitative data. Non-significant quantitative results attained for intervention teachers and SNAs were also explored. No effects were noted in control group scores over the same time period. Qualitative analysis revealed further insights including the impact of responding to trauma on staff and barriers to content implementation.

Conclusions

This study provides support for the efficacy of Modules 1 and 2 of the TSSTP in improving important staff variables related to implementing trauma-sensitive approaches. It also identified supports and barriers to content implementation. Study limitations, as well as implications for professional practice and future research, are explored.

Declaration

I hereby declare that this thesis is entirely my own work and has not been submitted for any other awards at this or at any other academic establishment. Where use has been made of the work of other people, it has been fully acknowledged and referenced.

Name: Brendan Delaney

Signature: _____

Date: _____

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List of Abbreviations

ACEs – Adverse Childhood Experiences

TSSTP – Trauma-Sensitive Schools Training Package

PEIN – Prevention and Early Intervention Network

SNA – Special Needs Assistant

CDC – Centers for Disease Control and Prevention

SAMHSA – Substance Abuse and Mental Health Services Administration

NCTSN – National Child Traumatic Stress Network

NEPS – National Educational Psychological Service

GSE – General Self-Efficacy

SERSAT – Self-Efficacy in Responding to Students Affected by Trauma

COTDC – Center on the Developing Child

NCCA – National Council for Curriculum and Assessment

DES – Department of Education and Skills

WoE – Weight of Evidence

DEIS - Delivering Equality of Opportunity in Schools

CI – Confidence Intervals

NSCDC – National Scientific Council on the Developing Child

KUTIA – Knowledge and Understanding of Trauma and its Impact Assessment

ARTIC – Attitudes Related to Trauma-Informed Care

HEARTS – Healthy Environments and Response to Trauma in Schools program

TTS – Teaching Traumatized Students Scale

TSES – Teachers' Sense of Efficacy Scale

DSM – Diagnostic and Statistical Manual of Mental Disorders

PSI – Psychological Society of Ireland

APA – American Psychological Association

PTSD – Post-Traumatic Stress Disorder

TLPI - The Trauma and Learning Policy Initiative

DTD – Developmental Trauma Disorder

Chapter One

Introduction

Introduction

> "When you look at a child to be aware of where they're coming from, their background, their experiences and what they're bringing into the classroom because it's not always them behaving badly"
>
> (Special Needs Assistant [SNA] quote from the current study)

While trauma has long been noted as having significant negative impacts on children and young people, the focus on schools as appropriate systems to mitigate against these effects is still in its infancy (Felitti et al., 1998; McIntyre, Overstreet, & Baker, 2019). Movements towards trauma-sensitive schools are beginning to gain momentum, with this best observed in countries including the U.S. in response to incidents such as tragic school shootings (Guarino & Chagnon, 2018). Progress is also apparent in Europe in countries including Scotland and Wales. It appears that Ireland is behind the international community however, whereby explicit trauma-focused policy does not exist at present and applied research in the area had not been undertaken prior to the current study (Prevention and Early Intervention Network [PEIN], 2019). Initial international research findings exploring the impact of trauma-sensitive schools' professional development interventions and trauma-sensitive approaches in educational settings are providing encouraging results (Dorado et al., 2016; McIntyre et al., 2019). These include improved knowledge and awareness of trauma among staff and improvements in a wide range of student variables (Crosby, 2016; Dorado, Martinez, McArthur, & Leibovitz, 2016; McIntyre et al., 2019).

My interest in providing psychological support for students affected by trauma initially came about during my teaching career. This was strengthened substantially following a lecture received from my thesis supervisor, Dr. Maeve Dooley, in the

area of childhood trauma and its impact, as part of my studies on the Doctorate in Educational and Child Psychology programme. This experience led me to recognise that many teachers in Ireland are supporting students without knowledge of this crucial topic. Upon reflection, I realised that I too did not have this knowledge or awareness when teaching. My interest in the area was further strengthened through my placement with the National Educational Psychological Service (NEPS) during which I supported numerous students with extensive trauma histories. From personal research and college lectures, I was aware of the impact such events could have on the children's academic, emotional and behavioural development. I also realised that school staff needed information and training in the area of trauma-sensitivity to support these students more effectively. Upon researching the area however, I became aware of the lack of suitable evidence-based interventions available for this purpose. It was at this time I came across the 'Trauma-Sensitive Schools Training Package' (TSSTP; Guarino & Chagnon, 2018). Although the programme had not been evaluated previously, it presented as a comprehensive, literature-supported professional development intervention funded by the U.S. Department of Education. Through further research of the TSSTP and frequent correspondence with one of its authors, namely Kathleen Guarino, I became interested in exploring the efficacy of applying this package in the Irish system to upskill education staff in the area of trauma-sensitivity. These experiences culminated in the identification of the current research topic and the selection of the TSSTP for use in this study.

Throughout the current thesis, a number of specific terms have been utilised to communicate detailed concepts. In particular, the term childhood trauma is utilised to denote a single event, number of events or situation which a child experiences as life-threatening or detrimental to their physical or mental health (Guarino &

Chagnon, 2018; The National Child Traumatic Stress Network [NCTSN], 2008; 2019a). These events can overwhelm a child's ability to successfully cope and result in residual negative impacts to areas including mental, physical and emotional well-being (Guarino & Chagnon, 2018; NCTSN, 2008, 2019a). Trauma-sensitive approaches in schools refer to school cultures which strive to create supportive educational environments, practices and policies (NCTSN, 2016, 2019a). These cultures are permeated with trauma knowledge, awareness and skills and they cultivate resilience and recovery by becoming receptive and responsive to the needs of trauma-exposed students (NCTSN, 2016; Overstreet & Chafouleas, 2016). Within these approaches, all levels of the system communicate effectively so that the impact of trauma is recognised and responded to in a manner which promotes the healing of students and avoids re-traumatisation (NCTSN, 2016; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Trauma-sensitive schools are defined as educational settings in which these principles of trauma-sensitivity are upheld and all students are effectively supported in line with trauma-sensitive principles (NCTSN, 2008, 2019a). Finally, SNA participants in the current study refers to non-teaching staff that provide support to students with significant care needs in the Irish school system (National Council for Special Education, 2018). SNAs are akin to 'paraprofessionals' in the U.S. school system and 'Teaching Assistants' in the United Kingdom, although some disparity exists between the roles and definitions of these non-teaching staff internationally (Griffin-O'Brien, 2018; National Council for Special Education, 2018).

The current thesis is structured in line with recommendations from Mary Immaculate College and consists of three components integrated into a full thesis: Review Paper; Empirical Paper; and Critical Appraisal and Impact Statement. The

review paper presents a critical review of the literature base relevant to the current study. This section also provides an overview and systematic appraisal of existing research both in terms of conceptual relevance and methodologies employed, with gaps requiring future research identified. The Empirical Paper provides an account of the current study and outlines the manner through which the thesis satisfies conceptual or methodological voids identified in the review paper. The format aligns with the traditional structure of a research article in the form of introduction, methodology, results and discussion. Finally, the Critical Appraisal provides a medium for critical reflection on several important issues relating to the current study. These include strengths and limitations of the project, the epistemological positions adopted, ethical dilemmas encountered, and implications of the research in terms of knowledge of the topic, professional practice and future research. A personal reflection on undertaking the study is also provided. The final component of this section entails an Impact Statement outlining the manner through which the expertise, knowledge, analysis and insights presented in the current project may be beneficial inside of academia and in professional practice. The thesis concludes with references and appendices, which can be observed at the end of the document.

Chapter Two

Review Paper

2.1 Literature Review

2.1.1 Childhood Trauma

Childhood trauma refers to a single event, number of events or situation which a child experiences as life-threatening or detrimental to their physical or mental health (Guarino & Chagnon, 2018; NCTSN, 2008, 2019a). These events can overwhelm a child's ability to successfully cope and result in residual negative impacts to areas including mental, physical and emotional well-being (Guarino & Chagnon, 2018; NCTSN, 2008, 2019a). The same event or circumstance may not be traumatic for every child, with their experience of the event determining whether it becomes traumatic (Guarino & Chagnon, 2018). Witnessing an event may also prove traumatic, particularly if it involves threat to loved ones' lives (NCTSN, 2019a; SAMHSA, 2014). This is true especially for young children as their perception of their own safety is heavily linked to their view of the safety of their attachment figures (NCTSN, 2019a). A huge range of events have the potential to prove traumatic to children, ranging from single events to experiences that are persistent or even generational (NCTSN, 2019b). These include natural disasters such as floods, human-caused traumas such as car accidents, and community or school-related traumas including the death of a peer or school staff member or being assaulted or bullied (Guarino & Chagnon, 2018; NCTSN, 2019b, SAMHSA, 2014). Further potential traumas include those related to family such as being neglected, experiencing forced displacement or war as a refugee, and medical traumas, including invasive medical procedures or serious illness (NCTSN, 2019b, SAMHSA, 2014).

While childhood trauma has long been viewed as having detrimental effects on children, the true harm of facing these traumatic experiences was illuminated in the

seminal Adverse Childhood Experiences (ACEs) study undertaken by Kaiser Permanente and the Centers for Disease Control and Prevention (CDC; Felitti et al., 1998). Adverse Childhood Experiences are ten specific categories of childhood trauma which occur in the first 18 years of an individual's life and involve abuse, household challenges or neglect (CDC, 2016). The original ten-ACE list consisted of physical, sexual and emotional abuse, physical and emotional neglect, domestic violence, substance misuse or mental health difficulties of a family member, parental separation or divorce, and the imprisonment of a family member (SAMHSA, 2018). While a child experiencing these ACE situations is sadly not a new phenomenon, the potential life-long impact was undiscovered until Felitti et al.'s (1998) study. These authors identified a 'dose-response' relationship between experiencing ACEs and serious physical and mental health issues in adulthood, with the number of ACEs an individual has experienced increasing the risk of a substantial number of health-related concerns. Increased risks were identified for physical diseases such as heart disease, cancer, sexually transmitted diseases, and lung and liver disease. The presence of four or more ACEs was linked to a significant increase in the risk of mental health difficulties including depression, alcoholism, drug abuse, smoking and suicide attempts. Furthermore, a relationship was identified between the presence of this number of ACEs and physical inactivity, severe obesity and poor self-related health. Similar results were attained by Hughes, Ford, Davies, Homolova and Bellis (2018) in Wales. Compared to those with no ACEs, individuals exposed to four or more ACEs were 3.7 times more likely to be receiving treatment for a mental illness at present, 6.1 times more like to have received a treatment of this kind at some stage in their lives, and 9.5 times more likely to have self-harmed or had suicidal feelings. These striking ACE-related findings have resulted in van der Kolk (2005)

highlighting childhood trauma as “the single most important public health challenge in the United States” (p.401). This is supported by Bellis et al. (2019) who cites US$581 billion in Europe and US$748 billion in North America as directly attributable to treating the impacts of ACEs annually. More than 75% of this cost is attributable to individuals who experienced two or more ACEs (Bellis et al. 2019).

The prevalence of ACEs among the general population is a stark finding, as reported by the CDC (2016). In a survey of 17,337 individuals, they found 26% reported having one ACE, 15.9% two ACEs, 9.5% three ACEs and 12.5% four or more ACEs. These high prevalence rates were mirrored among a child-only sample, with 22.6% of 0-17 year olds and 30.5% of 12-17 year olds having two or more ACEs (Bethell, Newacheck, Hawes, & Halfon, 2014). Similar results were reported by Hughes et al. (2018) in Wales. They found that at least one in every two people have at least one ACE, with 19% of people having one ACE, 17% having two-three ACEs and 14% having four or more ACEs. Adverse Childhood Experiences statistics in an Irish context come from the Cork Simon Community (2017), a charitable organisation supporting homeless people in Cork, Ireland. They found much higher ACE levels than Felitti et al.’s (1998) original ACE study, with 100% of people accessing the service reporting at least one ACE. Similarly, 77% of people had four or more ACEs, 34% had seven ACEs and 8% had experienced all ten ACEs, with an average of 5.15 ACEs per person. While these statistics do not explain causality regarding why the people accessing this service became homeless, it is impossible to ignore the potential impact of these experiences on service users lives. Notably, studies have been undertaken which investigate a wider range of ACEs categories than those originally considered in Felitti et al.’s (1998) study, as outlined by Hughes et al. (2017). These include experiencing bullying, criminality

within the household, growing up in a single parent family, the death of a parent, relative or close friend, serious illness or injury to the child or a member of their family, poverty/family financial problems, poor child-parent relationship and witnessing events such as violence or crime. Similar to Felitti et al.'s (1998) results, a 'dose-response' relationship was identified between many extended ACEs and all later life health outcomes explored (Hughes et al., 2017). The majority of these outcomes were similar to those explored by Felitti et al. (1998), such as physical inactivity, mental health difficulties and cancers. Relationships were also observed with novel outcomes including problematic drug and alcohol use, respiratory disease, and violence towards oneself and others (Hughes et al., 2017). While the vast majority of research demonstrating the potential negative impacts of childhood trauma is related to the ten original ACEs, it is important to note that a huge range of experiences, and not just these ten ACEs, can prove traumatic for children (ChildTrends, 2019; Marich, 2019; Ogle, Rubin, & Siegler, 2015).

2.1.2 Toxic Stress and Childhood Responses to Trauma

Experiencing childhood stress and learning to cope is a vital part of healthy development and is essential for survival (National Scientific Council on the Developing Child [NSCDC], 2014). On facing stressful situations in childhood, a stress response system is triggered which results in the activation of a range of physiological, hormonal and neurochemical reactions (NSCDC, 2014). This system is traditionally believed to comprise of two systems influenced by the amygdala and the hypothalamus: the sympathetic nervous system, which is largely responsible for the 'fight or flight' response and produces adrenaline in the adrenal gland, and the hypothalamic-pituitary-adrenocortical system, which produces cortisol in the adrenal gland (Murison, 2016; NSCDC, 2014). All types of stress can activate this system

once the amygdala, which is the alarm centre or 'smoke detector' of the human body, senses a danger (van der Kolk, 2014). In the presence of supportive attachment relationships, stress responses to everyday stressors, such as completing exams or losing a match, are returned to baseline and result in the development of resilience and healthy stress response systems, known as 'positive' or 'tolerable' stress response systems (Center on the Developing Child [COTDC], 2019; NSCDC, 2014). Additional protective factors supporting the development of resilience are safe and supportive home and school environments, high IQ, high self-esteem and well-developed emotional regulation skills (COTDC, 2015; Layne et al., 2009; Masten, 2014). Similar to common everyday stressors, protective factors may also mitigate against traumatic stress caused by childhood trauma (Layne et al., 2009; Masten, 2014). When these supports are present children are able to adapt successfully to traumatic stress and maintain healthy functioning with only mild trauma-related symptoms emerging either during, or shortly after, traumatic events (Masten, 2014). This does not imply children have not been changed by these negative experiences, but rather, their resilience and protective factors have allowed them to adapt and move forward in a healthy manner (COTDC, 2015).

Conversely, when children are exposed to frequent, prolonged and intense traumatic stressors without sufficient protective supports, toxic stress can occur (COTDC, 2019). This involves the stress response system being frequently activated, resulting in a 'wear and tear' effect on the body itself, known as the "allostatic load" (COTDC, 2019; NSCDC, 2014, p.145). Without crucial protective factors, children are unable to effectively adjust and cope to alleviate the level of traumatic stress experienced, resulting in severe distress and maladaptive functioning (Layne et al., 2009). This produces a range of difficulties including disorganised attachments, as

caregivers have failed to provide security and safety, impaired development across numerous areas, and dysfunctional neurobiological responses to aid escape from or survival of danger, such as hyperarousal or dissociation (Layne et al., 2009; Perry, Baker, Blaicley, Pollard, & Vigilante, 1995; van der Kolk, 2014). While these neurobiological reactions are adaptive means of coping in the context of supportive relationships, frequent and prolonged exposure to trauma results in these responses becoming the child's normal way of interacting with the world (Painter & Scannapieco, 2013; Perry et al., 1995).

2.1.2.1 Hyperarousal Response

Research shows when a 'fight or flight' response occurs, children enter into a state where they tune out non-vital information and focus intensely on the perceived threat their body is preparing to either fight against, or run from (COTDC, 2019; Perry et al., 1995). When this response system is frequently and intensely reactivated through situations including thinking about the traumatic event or encountering stimuli which remind the child of the event, children can enter into a hyperaroused state (Perry et al., 1995; van der Kolk, 2014; Wilson, Hansen, & Li, 2011). This occurs when stimuli that elicit a response become generalised and when sensitisation occurs through the over-activation of the amygdala, resulting in lesser threats producing greatly amplified terrorising effects (Painter & Scannapieco, 2013; Perry et al., 1995). An example of this is a child who has previously experienced trauma in relation to the sound of a gunshot. In this scenario, the child may become extremely distressed at a loud noise in their environment, such as a car back firing (Painter & Scannapieco, 2013; Perry et al., 1995). This has a number of negative consequences including feeling threatened in situations where no real threat exists, remaining excessively anxious after a threat has diminished and over-reacting to common

stressors that would not have previously elicited a response and do not cause distress to other children (NSCDC, 2010, 2014; Perry et al., 1995; van der Kolk, Ford, & Spinazzola, 2019). This sustained, frequent response activation has the potential to negatively alter developing neural systems, suppress the immune response and damage the hippocampus, which is vital in memory, learning and stress response regulation (Lupien, McEwen, Gunnar, & Heim, 2009; McEwen, 1998). The hyperarousal response is perhaps best understood as impairment in the ability of the salience network in the brain to effectively complete its threat detection function due to a loss of top-down regulation, resulting in significantly heightened levels of hyperarousal (Akiki, Averill, & Abdallah, 2017). During hyperarousal, the reptilian complex, or 'survival brain', takes over and deactivates the mammalian, or 'thinking', brain to prioritise speed of response (Marich, 2019). This may impair children's ability to effectively integrate information to learn from and cope with experiences, and can lead to instinctual, behavioural responses being undertaken in place of rationally contemplated decisions (Dorado et al., 2016; Marich, 2019). Learning may also be impaired as when the 'thinking' brain is offline, students enter a state in which they are not learning ready (Dorado et al., 2016; Marich, 2019).

2.1.2.2 Dissociative Response

In many situations, children are unable to fight against, or flee from, traumatic situations, particularly if their caregiver is responsible for the perceived threat or if they are very young (Perry et al., 1995; Siegel & Bryson, 2018; Spinazzola, van der Kolk, & Ford, 2018). This often leads to a 'freeze' response, in which children will cognitively, and often physically, freeze to survey the situation and determine how best to respond (Perry et al., 1995; Siegel & Bryson, 2018; Spinazzola et al., 2018). Children who have developed a sensitised hyperarousal response following trauma

tend to ‘freeze’ as a protective mechanism in the face of an event or stimulus they perceive as anxiety-provoking (Spinazzola et al., 2018). While this may be adaptive in situations where a genuine threat exists, it can often be perceived as oppositional behaviour when it occurs without legitimate danger (Spinazzola et al., 2018; Ural, Belli, Akbudah, & Tabo, 2015). An example of this is in school situations where a child freezes and does not complete a directive given by a teacher. Freezing is often perceived as refusal to comply and the teacher may therefore issue a further, more threatening directive, which may cause further anxiety to the child. Research shows this may intensify the child’s emotions from anxiety to elevated feelings of threat, and potentially to extreme levels of terror, leading to either the ‘freeze’ response being reinforced or to dissociation (Guarino & Chagnon, 2018; Perry et al., 1995). Dissociation occurs when children disengage with stimuli from the external world and instead attend to an ‘internal’ world, thus allowing them psychological escape from the emotional and physical distress experienced in intensely traumatic situations (Lanius, 2015; Siegel & Bryson, 2018; Spinazzola et al., 2018; van der Kolk, 2014). Dissociative responses tend to include compartmentalisation and detachment, with typical presentations including emotional numbing, derealisation, going to a ‘different place’, assuming alternate personas or a sense of ‘floating’ (Lanius, 2015; Perry et al., 1995; van der Kolk, 2014). Dissociation is reported to occur during traumatic experiences themselves and during situations where no real threat is present but hyperarousal responses cause children to feel terrorised, with greater severity of trauma associated with higher likelihood of dissociation (Lanius, 2015; Putnam, 1996; Perry et al., 1995; van der Kolk, 2014). It is believed dysfunction in the key structures of the default mode network of the brain, or

impairments in the connectivity between these default mode network structures, may mirror the behavioural changes exhibited in dissociation (Akiki et al., 2017).

2.1.3 Trauma and the Diagnostic and Statistical Manual of Mental Disorders

The psychological impacts of traumatic exposure are currently recognised in the Diagnostic and Statistical Manual of Mental Disorders-V **(**DSM-V; American Psychological Association [APA], 2013) category of 'Trauma and Stressor Related Disorders' (Friedman, 2013; Kapfhammer, 2014). Advancements in this edition have allowed the consequences of prolonged, repeated exposure to traumatic events to be highlighted, rather than just individual traumatic events (Friedman, 2013). Additionally, the two primary dysfunctional responses of hyperarousal and dissociation discussed previously are now explicitly recognised (APA, 2013).

A primary criticism of the Post-Traumatic Stress Disorder (PTSD) diagnosis under previous DSM-IV (APA, 2000) criteria was the failure to adequately address complex sequelae of prolonged and frequent childhood trauma, such as the negative impact on a child's functioning and development and internalising and externalising problems (van der Kolk et al., 2009). This led to van der Kolk et al.'s (2009) proposal for the child-specific trauma diagnosis of 'Developmental Trauma Disorder' (DTD) to be included in DSM-V, which offered a framework to consolidate this wide range of complex sequelae into a single developmental disorder (Pat-Horenczyk et al., 2015). This disorder is grounded in the assertion that multiple exposures to traumatic experiences result in consistent and predictable consequences which impair a child's functioning across a range of crucial areas (van der Kolk, 2005). DTD proposes traumatic experiences lead to dysregulation triggered by traumatic reminders and the generalisation of stimuli, as well as

organising behaviour to avoid re-experiencing traumatic events, evade hurtful associated affects and to establish a sense of control in the face of these experiences (van der Kolk, 2005).

DTD was not accepted by the DSM-V committee, with a number of reasons cited. These include assuming monocausality through exposure to trauma alone, a lack of reliability and validity to be defined as a mental disorder, and a failure to offer sufficient distinction from other disorders (Bremness & Polzin, 2014; Schmid, Petermann, & Fegert, 2013). Researchers argue DTD is a distinct disorder that may co-occur with other diagnoses and recommend it as the sole trauma-related diagnosis that should be included in the DSM-V if only a single trauma-related disorder was permitted (Bremness & Polzin, 2014). The case for DTD is strengthened by support provided for its clinical utility by a range of international paediatric and behavioural health professionals and perception among professionals that the current PTSD diagnosis is inaccurate in catering for developmental trauma, identifying only 5-25% of these cases accurately (Ford et al., 2013; Pynoos et al., 2008). This suggests that while DTD is not considered a viable diagnosis at present by the DSM committee, the PTSD diagnosis fulfilling the role fails to adequately represent the extensive impact experiencing prolonged and frequent trauma has on children and adolescents (Bremness & Polzin, 2014; Friedman, 2013; van der Kolk et al., 2019).

2.1.4 The Impact of Trauma on Child Functioning and Development

Recent evidence suggests that regardless of whether a child meets the criteria for a PTSD diagnosis under DSM-V criteria, their development and functioning may still be significantly negatively affected if sufficient protective supports are absent (Painter & Scannapieco, 2013; Perry et al., 1995; van der Kolk et al., 2019).

Longitudinal studies have shown children who experience maltreatment or witness domestic violence against their mothers display lower scores in cognitive functioning than untraumatised children (Enlow, Egeland, Blood, Wright, & Wright, 2012). Mills et al. (2011) found these cognitive impacts may extend into adolescence as when other variables were controlled for, adolescents who experienced at least one report of sexual, emotional or physical abuse or neglect demonstrated significantly lower scores in abstract reasoning than those who did not experience these events. Further cognitive impacts may also occur. These include a distorted sense of self and of the world, difficulties with executive functioning and impaired self-concept development, sensory perception and comprehension, as well as increased risk for difficulties in cognitive functions including memory, attention, ability in language and verbal development (Little & Akin-Little, 2013; Maynard, Farina, Dell & Kelly, 2019; NCTSN, 2003).

Other areas of development impaired include social and behavioural functioning and emotional development (Painter & Scannapieco, 2013). Children exposed to trauma tend to display significantly more internalising and externalising behavioural problems than their untraumatised peers, with a significant relationship established between these variables (Milot, Ethier, St-Laurent, & Provost, 2010). Examples include inattention and impatience, lack of focus and participation in class activities, impulsivity and over-activity, disruptive and noncompliant behaviours, aggressive and disrespectful behaviours, avoiding reminders of the trauma, and social withdrawal and isolation from activities and peers with whom they previously engaged (Dodge Reyome, 1993; Erickson, Egeland, & Pianta, 1989; Little & Akin-Little, 2013). Notably, the type of behaviours a child presents with may depend on the nature of childhood trauma experienced (Martin, Cromer, & Freyd, 2010).

Research shows those exposed to neglect tend to display internalising and externalising problem behaviours, while those who experience physical or sexual abuse tend to engage in more oppositional behaviours (Dodge Reyome, 1993; Erickson et al., 1989). A desire for rigidly controlled behaviours may be displayed by traumatised children in the form of resistance to change, inflexible routines and excessive compliance (NCTSN, 2003). Emotional development may also be affected, with children presenting as more anxious and depressed than their peers and displaying frequent anger, fear, feelings of being alone and mood changes (Little & Akin-Little, 2013). Children exposed to trauma also tend to display impaired levels of self-esteem, feeling of shame or guilt and a reduced ability to effectively regulate their emotions (NCTSN, 2003).

Impacts on academic achievement are also observable. Mills et al. (2011) found that when other variables were controlled for, traumatised adolescents demonstrated significantly lower scores on the Wide Range Achievement Test than those who had not faced traumatic experiences. Exposure to trauma may also result in reduced grade point averages and scores in standardised assessments, as well as math, reading and science attainment (Goodman, Miller, & West-Olatunji, 2012; Slade & Wissow, 2007). These students were also found to display lower levels of school attendance, homework completion and higher risk for grade repetition (Slade & Wissow, 2007; Veltman & Browne, 2001). Notably, outcomes are observable with many childhood traumas and are not explained by other psychosocial variables, such as poverty (Cook et al., 2005). Arguably, many of these academic difficulties are results of related behavioural and emotional difficulties and deficits in attention and executive functioning rather than the traumatic experiences themselves (Becker-

Blease & Freyd, 2008; DePrince, Weinzierl, & Combs, 2009; Dodge Reyome, 1994).

Further areas affected by childhood trauma include physical development and medical well-being (NCTSN, 2003). Difficulties have been noted with coordination and balance, as well as increased somatisation and impaired brain development (Akiki et al., 2017; COTDC, 2019; Liu et al., 2017). Links have also been noted with overproduction of neural connections in brain areas associated with fear, anxiety and impulsive responses, such as the amygdala (NSCDC, 2010, 2014; Shonkoff & Garner, 2012). Similarly, associations have been observed with decreased volume of the hippocampus, corpus callosum, cerebellum and prefrontal cortex, which are implicated in executive functioning tasks such as planning and behavioural regulation (NSCDC, 2010; 2014; Shonkoff & Garner, 2012). Gene expression may also be inhibited, with genes involved in the long-term responsiveness of the stress response system and the efficiency of neural signal transmissions frequently impaired (NSCDC, 2014). Further physical symptoms include a hypervigilant state, hypersensitivity to physical contact, elevated heart rate and blood pressure, higher levels of muscle tension and physical numbness (Little & Akin-Little, 2013; NCTSN, 2003). Additionally, exposure to trauma has been associated with increased medical problems across a multitude of medical areas (NCTSN, 2003). These include the development of, and difficulties with, asthma, autoimmune disorders, pseudoseizures and skin problems (NCTSN, 2003).

Children's attachment relationships to their parents/caregivers may also be damaged, with research noting over 80% of perpetrators responsible for childhood maltreatment are the child's own parents (van der Kolk, 2005). This frequently

results in disorganised or insecure attachments which deteriorate further over time as children are exposed to recurrent trauma (Mikulincer, Ein-Dor, Solomon, & Shaver, 2011; Ogle et al., 2015). These attachment styles may further impair childhood development, with associations identified between these styles and a range of negative outcomes. These include behaviour problems, negative sense of self, poor emotional and affect regulation, and higher levels of stress hormones, depression, distress, and trauma-related symptoms than children with secure attachments exposed to trauma (Anderson & Gedo, 2013; Alexander et al., 1998; Mikulincer et al., 2011; Ogle et al., 2015). Increased risk has also been noted for psychological difficulties, developmental problems, and dissociation in later childhood and adolescence (Blizard, 2003; Brothers, 2014). Regarding social impairments, a range of negative effects exist. These include difficulties with other relationships, including teachers and authority figures, problems trusting adults and peers, difficulty accurately interpreting social cues and building relationships, and assuming others have the intent of hurting or betraying them (Cole, Eisner, Gregory, & Ristuccia, 2013; Cook et al., 2005; Guarino & Chagnon, 2018). This highlights the need for adults and peers in these children's lives to strive to build healthy relationships with them even though it may prove difficult and time-consuming (Cole et al., 2013; National Association for the Education of Young Children, 2015).

2.1.5 Trauma-Sensitive Approaches in Schools

Schools are aptly placed as natural systems with the capability to mitigate against many of the negative impacts of trauma and support all aspects of children's growth (Chafouleas, Johnson, Overstreet, & Santos, 2016; Overstreet & Chafouleas, 2016). This can be accomplished through implementing trauma-sensitive school approaches which strive to create supportive educational environments receptive and

responsive to the needs of students exposed to trauma (Overstreet & Chafouleas, 2016). In these approaches, the impact of trauma is recognised and responded to in a manner which promotes the healing of students and avoids re-traumatisation (SAMHSA, 2014). For effective implementation, a whole-school approach is vital, with this consensus highlighted by a range of educators, researchers and health-care professionals (Berardi & Morton, 2017; Wiest-Stevenson & Lee, 2016). While evidence-based trauma-specific interventions in classrooms or special education teaching settings are beneficial, they are not sufficient in fully realising the potential positive outcomes of the trauma-sensitive school approach (SAMHSA, 2014). A systemic approach is required which permeates and upholds "trauma awareness, knowledge and skills into their organisational cultures, practices and policies" and which utilises effective collaboration between all levels of the system to "facilitate and support the recovery and resiliency of the child" (NCTSN, 2016, p.1). Research notes the prevalence of these approaches is increasing rapidly internationally as educators are informed that their role is to create safe, supportive environments which facilitate student learning and growth, rather than attempt to become counsellors (Prewitt, 2014).

Whole-school core characteristics necessary for trauma-sensitivity are highlighted by the Trauma and Learning Policy Initiative (TLPI; 2018). The TLPI is a U.S. organisation linked to Harvard Law School with the objective of supporting students affected by trauma to succeed in school. These attributes are characterised by six key components, as observable in Table 1. This vision of trauma-sensitive schools is reinforced by SAMHSA (2014), the agency within the U.S. Department of Health and Human Services responsible for progressing public health efforts and decreasing the impact of substance abuse and mental health difficulties. In addition

to the TLPI (2018) characteristics, they also suggest it is crucial to actively avoid re-traumatisating children, to understand the paths to student recovery and to abide by their six key principles of a trauma-informed approach. These key principles are 1) safety; 2) trustworthiness and transparency; 3) peer support; 4) collaboration and mutuality; 5) empowerment, voice and choice; and 6) cultural, historical and gender issues (SAMHSA, 2014, p.10).

Table 1

TLPI Core Characteristics of Trauma-Sensitivity

Core Characteristic Number	Content
Core Characteristic One	All staff members develop an understanding of trauma, its prevalence and its impacts on the lives of the students
Core Characteristic Two	All students are made to feel safe in all school environments and in all aspects – physical, emotional, social and academic safety
Core Characteristic Three	Structures are in place which support student development in their relationships with staff members and peers, their capacity to self-regulate their behaviour, emotions and attention, their academic and non-academic ability, and their holistic well-being, both physical and emotional
Core Characteristic Four	A culture of acceptance and tolerance is cultivated in which all school members respect the needs of all and students are enabled to form bonds with the school community
Core Characteristic Five	The responsibility of responding to childhood trauma is shared throughout the school staff and addressed as a team in which members help and support one another
Core Characteristic Six	Management and school leadership are proactive in adapting to change and to the needs of the students in their care

2.1.6 Policy Supporting Trauma-Sensitive Approaches in Schools in Ireland

Over the past five years, legislation recognising the crucial nature of trauma-sensitive approaches has begun to emerge internationally. Within an Irish context, a review of relevant legislation found no policy documents exist which explicitly reference or target ACEs (PEIN, 2019). Notably, childhood trauma was frequently referenced in documents in an implicit manner, such as by acknowledging that many later life health issues can be traced back to these events and by recognising trauma

in early life can impair brain development (PEIN, 2019). These documents include 'First 5: A Whole-of-Government Strategy for Babies, Young Children and their Families 2019-2028' and 'Better Outcomes, Brighter Futures – the National Policy Framework for Children and Young People 2014-2020' (Department of Children and Youth Affairs, 2014, 2018). Similarly, no legislation exists which explicitly addresses childhood trauma or provides guidance for schools on responding to the needs of traumatised students or implementing whole-school trauma-sensitive approaches (PEIN, 2019). These findings have been condemned by the PEIN (2019), who argue Ireland needs to follow the examples of other countries and develop policy which explicitly addresses childhood trauma.

Although not designed to foster trauma-sensitive approaches explicitly, a number of frameworks currently in place in Irish schools have the potential to support the implementation of these approaches, such as the NEPS Continuum of Support (2010). This approach is currently in place in all primary and post-primary schools in Ireland and provides school staff with support and a framework through which the behavioural, emotional and social needs can be responded to in school in collaboration with their school-assigned NEPS educational psychologist. The Continuum of Support entails a response to intervention approach through which pupils initially receive targeted support at a classroom level, with more intensive, additional supports co-ordinated by the special education teacher and implemented on a whole-school level if this first step is ineffective. If intervention is still deemed unsuccessful, the final step of the model is undertaken. This stage is designed for pupils with more complex and enduring difficulties and entails the school enlisting the support of external supports to undertake a comprehensive assessment, with the view to developing a detailed intervention plan. This therefore suggests that the

Continuum of Support may be a viable means through which pupils affected by trauma may be supported at a number of levels within school systems.

Similarly, the recent focus on pupil well-being also has substantial potential in supporting students affected by trauma, with recent publications altering the landscape of Irish education and placing student well-being as a central focus (Department of Education and Skills [DES], 2019a). These include guidelines for education staff in supporting the holistic well-being of all primary and post-primary students, as well as guidelines for promoting positive mental health and suicide prevention (DES, 2010, 2013, 2015). This focus on well-being also forms a core tenet of the most recent Action Plan for Education documents, including the Action Plan for Education 2016-2019 and the Action Plan for Education 2019 (DES, 2016a, 2019b). Within these documents, priorities identified include the provision of well-being programmes in all schools, both primary and secondary level, and the delivery of professional development in well-being programmes for all education staff working in DEIS[1] schools (DES, 2017), including the Incredible Years (Webster-Stratton, 2012) and Friends for Life (Barrett, Lowry-Webster, & Turner, 2000) programmes. Benefits of these programmes include reducing behavioural difficulties and anxiety, promoting social functioning and connectedness, and improving resilience and emotional competence (DES, 2016a). Perhaps most importantly however, is the publication of the 'Well-Being Policy Statement and Framework for Practice: 2018-2023' document (DES, 2019a). Within this publication the crucial nature of school improvement and continued staff professional development in the area of well-being is explicitly highlighted, with culture and environment,

[1] The Delivering Equality of Opportunity in Schools' (DEIS) scheme aims to address educational disadvantage in Irish schools by providing additional supports to schools with a high number of pupils from disadvantaged communities (DES, 2017a).

curriculum (teaching and learning), policy and planning, and relationships and partnerships identified as the four key areas which need to be enhanced for well-being to be effectively promoted (DES, 2019a)

Further contextual frameworks in Irish primary and post-primary schools which may support the development of trauma-sensitive approaches include the Looking at our Schools Quality Framework (DES, 2016c, 2016d) and the School Self-Evaluation Programme (DES, 2012, 2016e, 2020). These publications require schools to enhance the quality of service being provided to their students and wider school communities (DES, 2016c, 2016d, 2020). The Looking at our Schools Programme underpins this self-improvement process through the provision of a quality framework outlining quality standards for schools in the areas of teaching, learning, leadership and management, with this framework subsequently employed by DES staff inspecting the quality of school service provision (DES, 2016c, 2016d). Upon reflecting on this quality framework, schools are mandated to undertake School Self-Evaluation in a minimum of two curriculum areas of teaching and learning between 2016 and 2020 according to the School Self-Evaluation Programme guidelines (DES, 2012, 2016d, 2020). This involves in-depth inquiry into these chosen areas through data collection and analysis, with the goal of planning for, and implementing, targeted actions to lead to improved student outcomes (DES, 2016d). While schools initially tended to focus on academic areas as part of this process, such as literacy and numeracy, the recent ‘Well-Being Policy Statement and Framework for Practice: 2018-2023’ document has brought about significant change (DES, 2019a; O’Brien, McNamara, O’Hara, & Brown, 2019). As a result of this publication, well-being is emphasised as imperative in school self-development and all schools and education centres are mandated to utilise the school

self-evaluation process to review their current promotion of well-being and generate a plan for future well-being development before 2023. The existence of these frameworks, and the recent focus on student well-being, suggest that while national policy specific to trauma and trauma-sensitive schools is not yet in place, many important areas are beginning to be addressed and advancements may be approaching.

2.1.7 Evidence Supporting Trauma-Sensitive Approaches in Schools

Trauma-sensitive approaches in schools are a relatively new approach internationally, with empirical support still developing (Maynard et al., 2019). Initial evidence is promising however, such as the study of Dorado et al. (2016) which evaluated the whole-school Healthy Environments and Response to Trauma in Schools (HEARTS) trauma-sensitive programme in San Francisco. Significant benefits were observed in areas including improved staff use of trauma-informed practices and perceptions of their students' ability to learn, as well as students' school attendance and time on task in class. The authors noted decreased behaviour problems and teaching time lost to disciplinary issues, with decreased trauma-related symptoms among students also noted. Improvements resulting from trauma-sensitive approaches have also been reported in students' academic grades, attention, internalising, emotional and behavioural regulation, school engagement, drop out levels and staff awareness and understanding of traumatic triggers and a child's background (Holmes, Levy, Smith, Pinne, & Neese, 2014; Longhi, 2015; NCTSN, 2010; Reschly & Christenson, 2006; van der Kolk, 2014). Similarly, effectiveness at pre-school level has been noted. Shamblin, Graham and Bianco (2016) found students demonstrated higher levels of childhood resilience and decreased negative behaviours, teachers felt more confident, competent and hopeful in addressing the

needs of their students, and the quality of the learning environment improved as a result of trauma-sensitive approaches.

Placing an emphasis on fostering supportive relationships between students and staff in trauma-sensitive approaches also yields significant benefits. Crosby (2016) found that utilising trauma-sensitive discipline strategies in place of traditional behaviour monitoring practices resulted in students describing their teachers as hugely beneficial resources in overcoming difficult emotional states. This is comparable to students receiving traditional practices who felt their teachers were responsible for these difficult states (Crosby, 2016). Improved student feelings of security, social functioning with peers and academic success have also been observed when these positive relationships are present (Hamre & Pianta, 2006). Additionally, this approach is beneficial for student attachment at all school levels, with teachers capable of providing important attachment figures and relationships for students in their care who may otherwise not receive these supports (Bergin & Bergin, 2009; COTDC, 2019; NCTSN, 2014; Riley, 2010). This has the capability to buffer the negative impacts of attachment difficulties with parents/caregivers and improve academic achievement, emotional resilience, emotional regulation and social functioning (Bath Spa University, 2018; Buss, Warren, & Horten, 2015; Phillips & Shonkof, 2000).

2.1.8 Implementing Trauma-Sensitive Approaches in Schools

Trauma-sensitive approaches involve intricate practices requiring the implementation of various components at a number of levels (Maynard et al, 2019). To alleviate complexity and aid schools, Hanson and Lang (2016) analysed a large numbers of trauma-sensitive school approaches and identified three areas necessary for trauma-sensitive schools to operate effectively. These include: 1) Staff

professional development; 2) Whole-school change in school environment and practices to support learning and reduce traumatisation and re-traumatisation; and 3) Changes in trauma-focused practice, such as implementing screening measures and trauma-specific interventions on a whole-school, classroom or individual child level (Maynard et al., 2019). Notably, over 400 trauma-focused researchers and practitioners identified staff professional development as the most important factor when implementing trauma-sensitive approaches (Hanson & Lang, 2016). This is echoed by school staff, with professional development identified as the resource most frequently requested by U.S. school personnel (Massachusetts Behavioral Health and Public Schools Task Force, 2011). A number of aims have been identified with this component. These include increasing staff awareness, knowledge and understanding of the prevalence of childhood trauma and its effects on childhood development, improving staff competence in recognising the signs of exposure to trauma, and enabling staff to view behaviours and difficulties through a trauma-informed lens, altering their means of response and improving student outcomes (Chafouleas et al., 2016; Lang, Campbell, & Vanderploeg, 2015; Maynard et al., 2019). This component may also foster the ability of school staff to identify and cope with secondary traumatic stress, vicarious trauma and burnout, which are common among those working with traumatised students (Hydon, Wong, Langley, Stein, & Kataoka, 2015; Maynard et al., 2019; NCTSN, 2011).

2.1.9 The Role of Professional Development

Implementation science research has highlighted the crucial role of professional development for staff. In a review of over 81 studies, Durlak and DuPre (2008) found this is a key positive contributing factor in creating favourable conditions for effective implementation. This is echoed by Foster (2014) and

Dusenbury, Brannigan, Falco and Hansen (2003), as both highlight professional development of teachers as vital in the successful implementation of interventions in school settings. Recent evidence suggests professional development is crucial as it leads to improvements in variables essential for effective implementation (Durlak & DuPre, 2008). Increases have been noted in staff self-efficacy, the extent to which personnel believe they are capable of, and have the necessary skills for, successful implementation (Durlak & DuPre, 2008). Self-efficacy levels of school staff in relation to an intervention are significantly associated with the standard of staff support and future performance, with high levels of self-efficacy linked to high levels of staff commitment and more successful implementation (Guskey, 1988; Keys & Bryan, 2000). Improvements in self-efficacy as a result of professional development have been noted in studies delivering training in school-based interventions including new curricula, instructional practices, reforms and inclusion interventions such as peer tutoring (Dufrene, Noell, Gilbertson, & Duhon, 2005; Fogleman, McNeill, & Krajcik, 2011; Guskey, 1988). Improvements have also been noted in non-academic areas including financial services and psychological consultation (Durlak & DuPre, 2008; Sterling-Turner, Watson, & Moore, 2002).

Staff professional development has also been shown to improve other key implementation variables including attitudes, knowledge and understanding (Cullen, Gregory, & Noto, 2010; Durlak & DuPre, 2008). Wide-ranging improvements have been reported in education personnel's knowledge and understanding in areas including developmentally-appropriate curricula, classroom best practices and vulnerable student populations such as students with intellectual disabilities and students with disabilities (Breffni, 2010; Carroll, Forlin, & Jobling, 2003; Rae, McKenzie, & Murray, 2010). Associations have also been noted between increased

knowledge and direct positive implications for educational practices (Resnick & Zurawsky, 2005; Snow-Renner & Lauer, 2005). This suggests improvements in this variable may lead to improved implementation of interventions and other vital educational endeavours (Resnick & Zurawsky, 2005; Snow-Renner & Lauer, 2005). Enhancements have also been observed in the attitudes of education staff towards specific interventions and towards the vulnerable populations they are designed to help, as demonstrated by Carroll et al. (2003). They found training in special education improved pre-service teachers' attitudes towards students with disabilities and promoted in-class inclusion. The true value of enhancing this variable has been shown by Cullen et al. (2010). They found teacher attitudes towards including students with special educational needs are a strong predictor of the success of developing inclusive school communities and predict the extent to which teachers will adapt their teaching and implement inclusive practices to meet these students' needs. Kirkpatrick (1967), Ajzen and Fishbein (1977) and Kraus (1995) all maintain that changes in staff attitudes are as important as knowledge change in enacting professional behaviour change. This suggests improving the attitudes of education staff towards vulnerable cohorts of students and towards supportive interventions is crucial if approaches are to be implemented successfully.

Professional development has been noted as helpful in resolving issues of role confusion and ambiguity, as illustrated by Butt and Lowe (2012). These authors found delivering skills-based training to teaching assistants allowed more accurate definition and fulfilment of their roles, increased motivation to undertake further professional development and increased belief undertaking training benefitted them personally and benefitted the class teachers and children they support. Professional development supporting the resolution of role ambiguity may be particularly

important in relation to trauma-sensitive approaches in schools (Alisic, 2012). This is proposed as teachers in the Netherlands tasked with responding to trauma in their classrooms were unsure of their roles in supporting these students (Alisic, 2012; Alisic, Bus, Dulack, Pennings and Splinter, 2012). This suggests role ambiguity needs to be resolved if teachers are to support these students effectively (Alisic et al., 2012).

Staff professional development is not always effective however, with a range of potential reasons responsible. These include school-level issues such as a lack of space for dialogue and culture that supports development (Fox, 2006; Luneta, 2012; Pedder, 2006). Similarly, not targeting areas viewed as important by staff can also impede success, particularly if training content is selected in a top-down manner by school administration with no input from school staff sought in designing or organising the topic (Archibald, Coggshall, Croft, & Goe, 2011; Opfer & Pedder, 2010). The absence of leadership buy-in is also a substantial obstacle. Specifically, research shows that less successful change occurs in settings where school leaders are unsupportive, not involved or unwilling to invest resources and time to ensure the implementation of training content (Guarino & Chagnon, 2018; National Council for Curriculum and Assessment [NCCA], 2009). Additionally, training can prove ineffective when there is little connection to real-life classroom practices, when personnel are not committed to the topic, and when follow-up and evaluation of implementation are absent (Archibald et al., 2011; Pedder & Opfer, 2010).

2.1.10 Trauma-Sensitive Schools and Professional Development

Nonetheless, when aforementioned factors are taken into consideration, research demonstrates professional development in trauma-sensitive approaches may improve crucial implementation-related variables with a range of professionals

(Kuhn et al., 2019). These include child protection services, social workers, police, and other social services staff (Damian, Mendelson, Bowie, & Gallo, 2018; Kuhn et al., 2019; Layne et al., 2011). Despite professional development being highlighted as one of three components necessary for the implementation of trauma-sensitive schools' approaches, little evidence exists supporting its value in improving essential implementation-related variables in educational settings (McIntyre et al., 2019). Much existing evidence is qualitative in nature, with improvements including enhanced self-care strategies, improved ability to recognise trauma, and the acquisition of new techniques for relaxation, dealing with challenging behaviour, and maintaining positive mind frames (Anderson, Blitz, & Saastamoinen, 2015; Perry & Daniels, 2016). While qualitative findings provide encouraging insights, they can only explore perceptions of the professional development interventions, rather than confirming hypotheses or statistically demonstrating change in crucial implementation-related variables (Sullivan & Sergeant, 2011). The lack of research undertaken to determine causal relationships is a stark realisation considering the weight attached to professional development practices. It is also striking as it raises the possibility that up to 50% of children who have not experienced war but have experienced trauma are not being appropriately supported by their teachers due to underdeveloped variables such as knowledge and skills (Alisic et al. 2012; Copeland, Keeler, Angold, & Costello, 2007). These findings led to the question posed in this review: 'Are professional development interventions in educational settings related to trauma-sensitive approaches/practices effective in improving school staff members' 1) general self-efficacy (GSE) in working with students and self-efficacy in responding to students affected by trauma (SERSAT); 2) attitudes towards trauma-sensitive practices; 3) knowledge and understanding of childhood trauma and

its impacts; and 4) perceptions of their role in responding to students affected by trauma?' The extent to which this review question is addressed sufficiently by current research is explored in the following section.

2.2 Critical Review of the Evidence Base

2.2.1 Literature Search

A comprehensive literature search was undertaken on March 22nd 2020 using the electronic databases ERIC (Education Resources Information Center), PsychARTICLES, PsychINFO and MEDLINE. To identify all articles relating to professional development interventions in the area of trauma-sensitive approaches in educational settings, the following search terms were utilised (see Table 2).

Table 2

Search terms utilised in database search

Databases	Search terms used
ERIC, PsychINFO, PsychARTICLES, MEDLINE	Contains 'Trauma-Sensitive' OR 'Trauma-Informed' AND 'Training' OR 'Development' AND 'School' OR 'Education*'

Prior to conducting the database search, filters were employed to remove articles which were not full texts or peer-reviewed (see Table 3 for rationale). Figure 3 presents a flowchart outlining the literature search process. Table 3 presents the inclusion and exclusion criteria employed for screening articles. Five articles were selected for inclusion in this review after this screening process. Two further studies were identified for full text screening through a subsequent ancestral search of the reference lists of the included articles. Of these two studies, one was selected for inclusion. Table 6 presents the six articles included in this review. Studies excluded from this review, with identified rationales, can be seen in Appendix 1. Summaries of the included studies can be seen in Appendix 2.

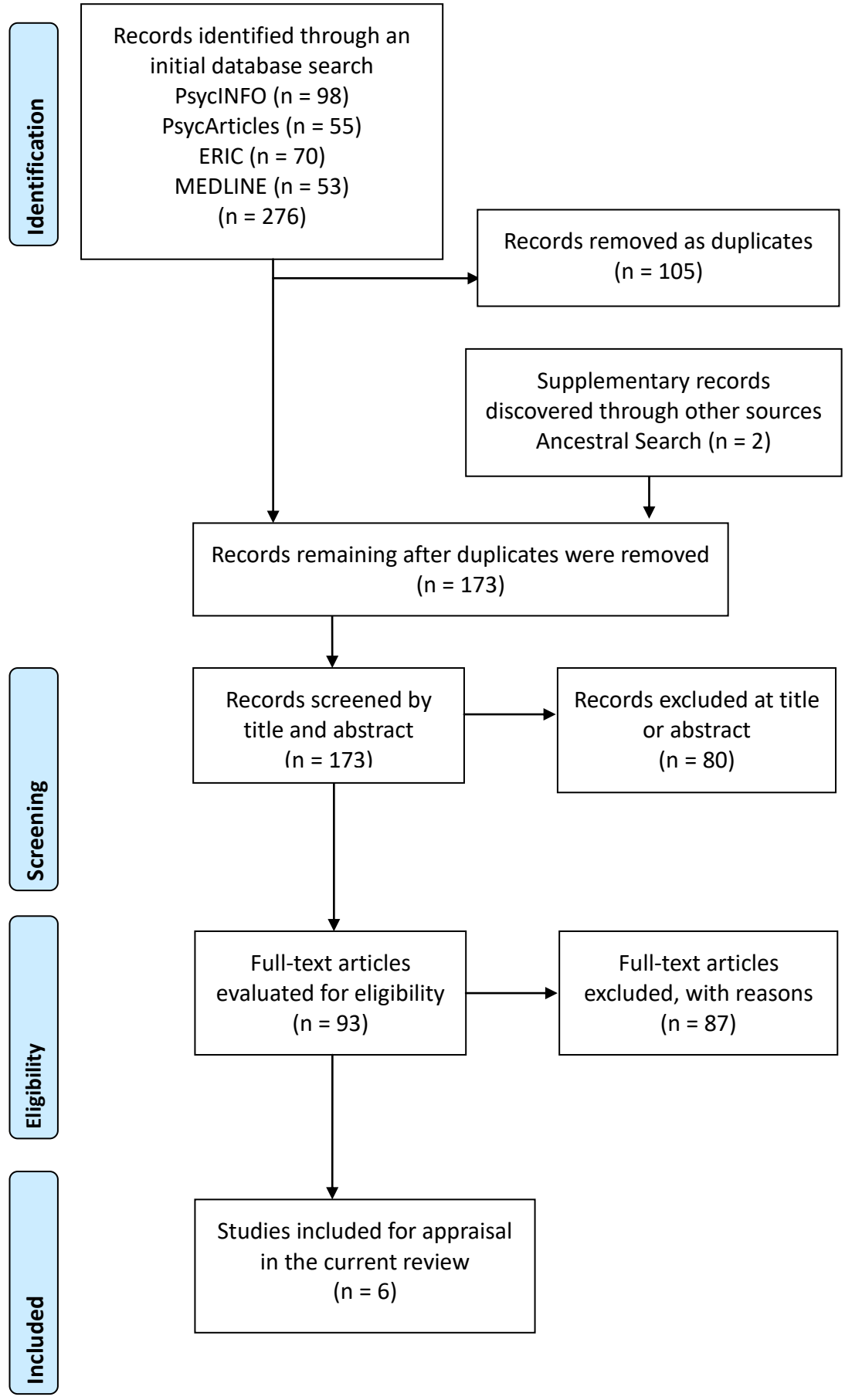

Figure 1. Flowchart outlining the literature search and selection process

Table 3

Inclusion and exclusion criteria

Study feature	Inclusion criteria	Exclusion criteria	Rationale
1 Type of publication	Full text publication which is published in a peer reviewed journal	Not a full text publication or published in a peer reviewed journal	The current review is only concerned with full texts which can be accessed and appraised and research published in peer reviewed journals as these have been evaluated by expert reviewers and have met quality standards
2 Participants / Population	Educational staff employed in primary or post-primary educational settings or the international equivalent or treatment facilities in which children/adolescents are educated	Participants not currently employed in primary or post-primary educational settings or the international equivalent or treatment facilities in which children/adolescents are educated	This review is examining the impact of professional development in trauma-sensitive approaches on educational staff in primary or post-primary educational settings or the international equivalent or treatment facilities in which children/adolescents are educated
3 Language	The study must be written in the English language	All or part of the study is not available in the English language	The current review requires the study to be written in English so it may be effectively appraised as translation services are not available
4 Intervention	Delivers professional development in trauma-sensitive or trauma-informed approaches	Does not deliver professional development in trauma-sensitive or trauma-informed approaches	This review is only concerned with the impact of professional development in trauma-sensitive approaches
5 Measures	Both pre-and post-intervention data must be present in the study	Both pre- and post-intervention data is not present in the study	The presence of both pre- and post-intervention data enables direct measurement of the effectiveness of the intervention
6 Outcomes	Measures staff self-efficacy, attitudes, knowledge and understanding, or perception of roles as a dependent variable	Does not measure staff self-efficacy, attitudes, knowledge and understanding, or perception of roles as a dependent variable	This review is evaluating the effect of professional development on staff self-efficacy, attitudes, knowledge and understanding, or perception of roles

Table 4

Studies selected for inclusion

	Included Studies
1.	McIntyre, E. M., Baker, C. N., & Overstreet, S. (2019). Evaluating foundational professional development training for trauma-informed approaches in schools. *Psychological services*, *16*, 95-102.
2.	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), 507-515.
3.	Crable, A. R., Underwood, L. A., Parks-Savage, A., & Maclin, V. (2013). An examination of a gender-specific and trauma-informed training curriculum: implications for providers. *International Journal of Behavioral Consultation and Therapy*, *7*(4), 30-37.
4.	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*, 163-176.
5.	Dublin, S., Abramovitz, R., Layne, C. M., & Katz, L. (2019). Building a trauma-informed national mental health workforce: Learning outcomes from use of the core curriculum on childhood trauma in multidisciplinary practice settings. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance Online Publication.
6.	Baker, C. N., Brown, S. M., Wilcox, P., Verlenden, J. M., Black, C. L., & Grant, B. J. E. (2018). The implementation and effect of trauma-informed care within residential youth services in rural Canada: A mixed methods case study. *Psychological Trauma: Theory, Research, Practice, and Policy*, *10*(6), 666-674.

2.2.2 Weight of Evidence

Adapted versions of the quality indicators outlined by the APA Task Force Coding Protocol for Group Designs (Kratochwill, 2003) were employed to code the six studies in this review. Gough's (2007) weight of evidence (WoE) framework was then utilised to appraise these studies. This framework enabled studies to be appraised in terms of methodological quality (WoE A), methodological relevance (WoE B) and topic relevance (WoE C; Gough, 2007). Both WoE B and C were judgements specific to the current review (Gough, 2007). Subsequently, these three WoE criteria were used to determine the overall ability of each study in addressing

the review question (WoE D). Information on the process of WoE appraisal can be observed in Harden and Gough's WoE framework (2012; see Appendix 3). The overall WoE results assigned to each included study can be observed in Table 5. Appendix 4 presents detailed information on the specific WoE criteria utilised to appraise the included studies.

Table 5

Weighting scores attributed to the included studies

	Weighting Score			
Study	Methodological Quality (WoE A)	Methodological Relevance (WoE B)	Topic Relevance (WoE C)	Overall Weight of Evidence (WoE D)
McIntyre et al. (2019)	Medium (1.39)	Medium (1)	High (2.67)	**Medium** (1.69)
Brown et al. (2012)	Medium (1.12)	Medium (1)	Medium (1.67)	**Medium** (1.26)
Crable et al. (2013)	Low (0.85)	High (2.5)	Medium (1.33)	**Medium** (1.56)
Dorado et al. (2016)	Medium (1.34)	Low (0.5)	Medium (1)	**Low** (0.95)
Baker et al. (2018)	Medium (1.53)	Medium (1)	Medium (1.33)	**Medium** (1.29)
Dublin et al. (2019)	Low (0.9)	Low (0.5)	Medium (1.67)	**Medium** (1.02)

2.2.2.1 Participants

A total of 3,068 adult professionals working with students affected by trauma from a range of educational and clinical settings and 1,243 students were included in this review. The studies of Dorado et al. (2016), McIntyre et al. (2019) and Dublin et al. (2019) were undertaken in the U.S. and represented the majority of participants (all 1,243 students and 2,651 out of 3,068 adult professionals). The study of Baker et al. (2018) was undertaken in Canada. The remaining authors (Brown et al., 2012; Crable et al., 2013) failed to specify where their studies were undertaken. The selection criteria of participants varied between studies. McIntyre et al.'s (2019) participants were 183 primary or secondary school teachers from six schools who were engaged in the Trauma-Informed Schools Learning Collaborative coordinated by the New Orleans Health Department at the time of the study. Dorado et al.'s (2016) participants were 1,243 students and 175 education staff (teachers, administrators, and staff from school coordinated care teams, such as special education professionals) from three elementary schools and one kindergarten-grade 8 school, with schools selected based on need for intervention, principal buy-in and satisfactory infrastructure. Baker at al. (2018), Crable et al. (2013) and Brown et al. (2012) selected staff members working in care settings. Baker at al. (2018) selected 116 staff members working in residential treatment facilities, outpatient treatment services or related fields serving children and youth. Five percent of these participants were teachers. Crable et al.'s (2013) participants were 40 female direct care staff working with adolescent females in a residential care facility. Five participants in this study were teachers. Brown et al.'s (2012) participants were 261 staff members working in child congregate care treatment settings. Fifteen participants in this study were teachers. Dublin et al (2019) failed to specify where

participants were employed and stated participants were mental health professionals and other staff, with 23.8% of participants as 'other types of child- and family-serving staff' (p.3). Educators were included within this 'others' category, but the authors failed to specify exactly how many educators participated. As the focus of this review is on education staff, the studies of Dorado et al. (2016), Brown et al. (2012), Baker et al. (2018), Dublin et al. (2019) and Crable et al. (2013) received lower WoE C scores as less than 50% of their participants consisted of this target population. All studies in this review reported participant attrition rates of less than 20% from pre- to post-intervention, resulting in higher WoE A Comparison scores. While only 23 participants participated in the follow-up element of Baker et al.'s (2018) study, this project was not negatively impacted as these participants voluntarily elected to engage in this stage in order to receive additional training, rather than this being a study requirement.

2.2.2.2 Design

Quantitative approaches exclusively were employed in five of the six included studies. As quasi-experimental designs were noted as most review-relevant, they resulted in higher WoE B scores, with Crable et al. (2013) the only author to utilise this in the form of a time series factorial design. All other quantitative studies (Brown et al., 2012; Dorado et al., 2016; Dublin et al., 2019; McIntyre et al., 2019) made use of non-experimental pre- post-designs, resulting in lower WoE B scores. McIntyre et al. (2019) and Dorado et al. (2016) both utilised a one group pre- post-design, and Dublin et al. (2019) utilised a retrospective one group pre- post-design, with the sole group in the studies identified as the treatment group. Brown et al. (2012) included 12 different groups in their study, with all groups receiving one or both professional development interventions. The study of Baker et al. (2018)

utilised a sequential explanatory mixed-methods case study, with an initial quantitative phase and a subsequent qualitative phase. As the target of this review was evaluating the effectiveness of professional development interventions, only the initial quantitative element was appraised. For this phase, a one group pre- post-design was utilised, resulting in a lower WoE B score.

Crable et al. (2013) were the only authors to employ a control group. Group equivalence was established and participants were randomly allocated to either the intervention or control group, with 20 participants in each condition. These factors resulted in improved WoE A Comparison and WoE B ratings. The control group was a no intervention control group, rather than a wait-list control group. Wait-list control groups are noted as more ethical than no intervention control groups as all participants receive the potentially effective intervention being evaluated (Barker, Pistrang & Elliott, 2016). Therefore, while Crable et al.'s (2013) study received a higher WoE A Comparison and WoE B score for the inclusion of a control group, it received a reduced rating due to the nature of this group. Control groups were not present in the remaining studies (Baker at al., 2018; Brown et al., 2012; Dorado et al., 2016; Dublin et al., 2019; McIntyre et al., 2019), resulting in lower scores in the relevant WoE sections.

2.2.2.3 Intervention

Professional development interventions related to trauma-informed care were delivered in all studies. The impact of these intervention was the sole focus in five of the studies included (Baker et al., 2018; Brown et al., 2012; Crable et al., 2013; Dublin et al., 2019; McIntyre et al., 2019), resulting in higher WoE C scores. Additionally, to receive high WoE C scores, interventions were required to provide

professional development in all three areas of trauma and its impact, the core principles/key domains of a trauma-informed approach, and strategies or skills required for trauma-sensitivity. McIntyre et al. (2019) and Crable et al. (2013) both received a high rating in this criterion. Baker et al., (2018), Brown et al. (2012), Dorado et al. (2016) and Dublin et al. (2019) received lower ratings as it was unclear if the core principles/key domains of a trauma-informed approach were addressed.

In McIntyre et al.'s (2019) study, a two-day foundational professional development training intervention structured around the four key assumptions of trauma-informed systems outlined by SAMHSA (2014) and resources developed by Cole et al. (2009, 2013) for creating trauma-informed schools was delivered. This training aspired to improve teacher knowledge and acceptance of trauma-informed approaches. The study of Crable et al. (2013) delivered a four-hour, eight module Gender Specific and Trauma Informed curriculum. This intervention aimed to provide an outline of sexual trauma within the context of cultural competent care and improve participants' knowledge of trauma and their ability to effectively interact with adolescents affected by trauma. The study of Brown et al. (2012) delivered two different professional development programmes from the Risking Connection training programme (Saakvitne, Gamble, Pearlman, & Tabor Lev, 2001). This was a curriculum-based foundational trauma-training programme drawing from constructivist self-development theory which sought to provide participants with a framework for understanding and working with traumatised clients. Participants received either one or both of the basic and train-the-trainer programmes. Basic training was a three-day, 16-18 hour foundational training programme, while the train-the-trainer was a 16-18 hour training focused on teaching the content and skills to deliver Risking Connection within an organisation. These two programmes were

also delivered to participants in the study of Baker et al. (2018), in conjunction with the Restorative Approach training programme (Wilcox, 2012). This was a 7 hour trauma-informed training in behaviour management designed for congregate care settings and regularly used to supplement Risking Connection. This was based on restorative justice concepts, with the goal of enabling staff to support clients to engage in restorative practices, rather than utilising punitive consequences. Professional development interventions were the only interventions being delivered and evaluated in these four studies, resulting in higher WoE C scores.

In Dublin et al.'s (2019) study, the Core Curriculum on Childhood Trauma was delivered. This involved a problem-based learning approach to enable participants to apply the 12 Core Concepts framework for understanding the impact of trauma and traumatic stress responses in children and families (Layne, Pynoos, & the Core Curriculum on Childhood Trauma Task Force, 2013). Case studies and structured inquiry were central, as participants applied learned skills to real-life examples with the goal of developing their conceptual knowledge of child trauma, problem-solving ability and critical reasoning proficiency (Layne et al., 2011). This study was deducted one mark in the WoE A Fidelity section regarding adaptation of intervention. While the authors stated the intervention varied based on the learning objectives and training context of the organisation receiving it, they failed to explain adaptation procedures. Substantial variety was noted between the interventions received by different organisations, such as the training duration ranging from 1.5 to 56 hours, with the rationale for this not specified. As professional development was the sole intervention delivered in this study, a higher WoE C score was given.

Unlike the other five included studies, Dorado et al.'s (2016) study did not focus explicitly on the impact of professional development. These authors

implemented HEARTS, which endeavoured to develop a whole-school approach by utilising a response to intervention model. The three tiers in this programme involved implementing school-wide supports designed to develop trauma-sensitive environments, delivering professional development to staff to enhance knowledge of trauma and trauma-informed approaches, and delivering intense interventions to support traumatised students. While professional development was delivered, the impact of the implementation of HEARTS approaches in schools and the impact of intensive interventions were also analysed. As the focus of this review is specifically on the impact of professional development, this resulted in this study receiving a lower WoE C rating.

Differences between studies were noted regarding the individuals delivering the professional development intervention. In McIntyre et al.'s (2019) and Dorado et al.'s (2016) studies, interventions were delivered by the developers, while those delivering the intervention in Dublin et al.'s (2019) study had received formal training. Training in the studies of Baker et al. (2018) and Brown et al. (2012) was delivered by formally trained faculty trainers or by participants who had received the train-the-trainer intervention and were certified to deliver training. Formal training of those delivering the intervention provides evidence of fidelity through manualisation, resulting in these studies receiving higher WoE A Fidelity and WoE C scores. Crable et al. (2013) failed to specify who delivered the training intervention in their study. While these individuals may have received formal training, it is impossible to guarantee this, resulting in this study receiving lower scores in the applicable WoE sections. Unlike manualisation, no evidence of acceptable adherence, such as supervision or consultation, was present in any of the included studies. This

represents a threat to intervention fidelity and resulted in all studies receiving lower WoE A Fidelity scores.

Further criteria required to receive high WoE scores included intervention setting, group homogeneity and counterbalancing of change agents. Studies needed to have been implemented in educational settings and all participants within an intervention or control group needed to have received the same level of intervention in order to receive high WoE scores. The studies of McIntyre et al. (2019) and Dorado et al. (2016) were attributed high WoE C scores as both were undertaken in educational settings. The WoE C scores of Baker et al. (2018), Brown et al. (2012), Crable et al. (2013) and Dublin et al. (2019) were reduced as their settings were not education-specific. Brown et al.'s (2012) study was undertaken in child congregate care treatment settings, while Crable et al.'s (2013) study was undertaken in a residential care facility for adolescent females. Similarly, Baker et al.'s (2018) study took place in residential treatment facilities, outpatient treatment services or related child- and family-serving settings. Dublin et al. (2019) did not specify their intervention setting. Regarding group homogeneity, Dorado et al. (2016) and Dublin et al. (2019) were the only studies included where all participants within an experimental group did not receive the same intervention. The level of intervention received by participants in Dorado et al.'s (2016) study varied as each school received HEARTS for a different amount of time. School A received HEARTS for five consecutive years, school B for four years, with a one-year gap between years three and four, school C for two years, and school D for 1.5 years. In Dublin et al.'s (2019) study, participants received differing levels of intervention as training ranged from 1.5 to 56 hours and the number of case examples explored in-sessions also varied. This represented clear disparity and as all participants were treated as one

homogeneous group, these studies received lower WoE B scores. All remaining studies received full marks in this WoE B criterion as all participants within each experimental or control group received the same level of treatment, creating accurate homogeneous groupings. Finally, the studies of Baker et al. (2018), Dorado et al. (2016) and Dublin et al. (2019) all received high WoE A Comparison scores as they provided evidence that change agents were counterbalanced. The studies of Brown et al. (2012), Crable et al. (2013) and McIntyre et al. (2019) received lower scores in this area as they either failed to report evidence of this feature or the same trainers delivered all training interventions.

2.2.2.4 Measures

To attain a high WoE C score, studies must have focused on at least two of the target variables in this review: staff self-efficacy (GSE or SERSAT), knowledge and understanding of trauma and its impact, attitudes towards trauma-sensitive practices and/or staff perception of their role in responding to traumatised students. Staff knowledge of trauma and responding to the needs of traumatised children or adolescents was assessed in five of the six included studies. While Baker et al. (2018) failed to explore this variable, they explored staff attitudes relating to trauma-informed care. Two studies received higher WoE C scores as in addition to assessing knowledge and understanding, they also explored an additional target variable (Brown et al., 2012: staff attitudes; Dublin et al., 2019: SERSAT). All other studies received lower WoE C scores as they focused on additional non-target variables. McIntyre et al. (2019) assessed acceptability of trauma-informed approaches and perceived system fit, Crable et al. (2013) examined staff satisfaction with training content, Baker et al. (2018) explored vicarious traumatisation, and Dorado et al. (2016) explored a range of student variables. Brown et al. (2012) also investigated

staff behaviour indicative of trauma-informed care, while Dublin et al. (2019) assessed staff satisfaction with the training and self-reported ability to use self-care strategies to reduce secondary trauma. As improving knowledge is a core function of professional development interventions, all five studies assessing this variable received higher WoE A Measurement scores as their key outcomes were linked to the conceptual model. Baker et al. (2018) received a lower WoE A Measurement score as they did not assess this variable.

A wide variety of measures were employed in the included studies. McIntyre et al. (2019) utilised a 14-item multiple choice knowledge questionnaire, adapted from Brown et al., (2012). An acceptable Cronbach's Alpha score for internal consistency was reported for pre-training (α=.82), but post-training this was below the adequate level of .7 (α=.55; Tavakol & Dennick, 2011). This resulted in a slightly lower WoE A Measurement score. Validity was not reported for this measure which also negatively impacted this WoE A rating. These authors also employed the acceptability and system fit climate scales from the Usage Rating Profile-Intervention Revised (Briesch, Chafouleas, Neugebauer, & Riley-Tillman, 2013). These two subscales were adapted for use in this study, but as the adaptation procedure was explicitly stated and explained, this did not negatively impact their WoE score. Acceptable reliability (acceptability α=.85; system fit α=.73) and validity with the target population was reported for both subscales, resulting in a higher WoE A Measurement score. The WoE A Measurement score of Dorado et al. (2016) was reduced as they failed to report reliability or validity for their HEARTS program evaluation survey. The Child and Adolescent Needs and Strengths Scale (Praed Foundation, 1999) was also employed. Reliability and validity with the target

population was reported for this measure, but as a Cronbach's Alpha score was not reported, the high WoE A Measurement score attributed was reduced slightly.

Crable et al.'s (2013) study employed a knowledge survey (Panzino, 2002) and a satisfaction survey (Vivian, 2006). While the author stated both had been used in previous research, reliability of validity were not reported, resulting in a score of '0' being attributed for these WoE A elements. Similarly, '0' was given to Dublin et al. (2019) in terms of the validity of their measures. They employed a Child Trauma Skills measure designed for the purpose of the study and a participant satisfaction survey. Acceptable reliability scores were noted, resulting in higher WoE A Measurement scores (Child Trauma Skills Measure: α pre = .95 and post = .91; Satisfaction Survey: α= .90).

Reliability scores were reported for all three measures used by Brown et al. (2012). The Trauma-Informed Belief Measure (Brown & Wilcox, 2010; pre-Basic α=.79; post-Basic α=.85; both pre- and post-TTT α=.81) and the Staff Behaviour in the Milieu Measure (Brown & Wilcox, 2010; Basic α=.84; administration at TTT α=.81) were reported reliable at all time points, resulting in an elevated WoE A Measurement score. Cronbach's Alphas scores reported for the Risking Connection Curriculum Assessment (Farber et al., 2004) fell below .7, resulting in a lower WoE Measurement score (Tavakol & Dennick, 2011). Validity was not reported for any measures utilised, resulting in a score of '0' for this WoE A Measurement criterion. Baker et al. (2018) also utilised the Trauma-Informed Belief Measure (Brown & Wilcox, 2010). This was reported as valid with the target population and reliable at both pre- and post-intervention (Cronbach's Alphas of pre = .84 and post = .88). These authors also employed the Professional Quality of Life Scale (Stamm, 2009) to assess vicarious traumatisation. This measure was noted as reliable across all time

points (Cronbach's Alpha scores of between .71 and .90) and while general validity was reported, validity with the target population of the study was not noted.

All studies were given higher WoE B scores as pre- and post-measures were conducted for all measures with all groups. For Brown et al. (2012) high marks were attributed for this criterion as although they did not undertake pre- and post-measures for all training types with all groups, measures were undertaken with at least one group completing each intervention type.

2.2.2.5 Findings

Four of the included studies (Brown et al., 2012; Dorado et al., 2016; Dublin et al., 2019; McIntyre et al., 2019) found significant improvements in participants' knowledge of trauma and trauma-related approaches, with effect sizes reported by McIntyre et al. (2019) and Dublin et al. (2019). In McIntyre et al.'s (2019) study, a paired samples *t*-test indicated significant increases in participant knowledge of trauma-informed approaches from pre- to post-training, with a large effect size observed ($p<.01$; $d=1.52$; Cohen, 1988). These results represented an increase in mastery performance by participants from 20% pre-training to 70% post-training, classified as answering at least 80% correctly. In Dublin et al.'s (2019) study, a one-tailed paired samples *t*-test indicated a significant increase in participant's self-rated understanding of the complexity of trauma impacts, with a large effect size noted ($p<.001$; $d=1.20$). Similar improvements were reported by Dorado et al. (2016) as paired samples *t*-tests highlighted significantly higher scores in the four survey items related to knowledge of trauma and trauma-sensitive practices (all $p<.001$ and increases of 57-68%). Similarly, in Brown et al.'s (2012) study, paired samples *t*-tests indicated significant improvements in the knowledge of all four groups

undertaking the basic training (all $p<.001$). Positive results were not reported post-intervention by Crable et al. (2013). No difference was reported between the pre- and post-intervention knowledge scores of the intervention group or between the knowledge scores of the intervention and control groups either before or after the intervention. Similarly, no difference was observed between knowledge scores from post-intervention to follow up 45 days after the intervention. While the inclusion of follow-up assessment of knowledge did not affect the WoE score, it is highlighted as a strong point of Crable et al.'s (2013) study. These authors highlight limitations in terms of the quality of the training intervention and in the measures used as potential reasons for the non-significant results attained.

While Baker et al. (2018) did not assess knowledge, they found significant improvements in staff beliefs favourable to trauma-informed care from pre- to post-intervention, with these improvements maintained at follow-up. Brown et al. (2012) also found significant improvements in staff belief towards trauma-informed approaches. Significant improvements were reported from pre- to post- for the nine groups that undertook basic training, with no difference noted between training by faculty members and staff from their own agency who had been trained via TTT. Similarly positive results were observed regarding TTT training, with belief scores for both groups improving significantly from pre- to post-intervention (both $p<.01$). Belief scores improved significantly from post-basic to pre-TTT in two groups and decreased significantly with one group, even though no training intervention was implemented during this time. Significant differences between groups at the three time points were reported in this study, with some groups scoring significantly higher than others. Variation in group contexts may have been responsible for these differences noted between groups. It is suggested groups scored higher when

leadership were involved and received the training, when a whole-organisation approach was utilised, and when participants were implementing trauma-sensitive concepts prior to training, with or without their explicit knowledge. Dublin et al. (2019) also noted significant improvements in the target variable SERSAT. A one-tailed paired samples *t*-test indicated a significant increase from pre- to post-intervention, with a large effect size noted ($p<.001$; $d=1.00$). While these findings did not affect the WoE scores of these studies, they suggest the interventions implemented were effective in improving these target variables (Hanita, Ansel, & Shakman, 2017).

Significant differences from pre- to post-intervention were also reported in a number of non-target variables. These included significant improvements in staff behaviour (Brown et al., 2012), staff use of trauma-sensitive practices, and student variables including ability to learn, time on task, and school attendance (Dorado et al., 2016). Similarly, Dorado et al. (2016) found significant decreases in trauma-related symptoms across all five areas of the Child and Adolescent Needs and Strengths Scale, and decreases in total behavioural incidents, incidents involving physical aggression, and out-of-school suspensions. Dublin et al. (2019) noted significant improvements in all remaining areas assessed using the Child Trauma Skills measure and reported at least 89.2% of participants gave satisfaction ratings of 4 or 5 to each satisfaction statement. All results were not positive however, as Crable et al. (2013) noted a significant decrease in staff satisfaction with the training curricula scores from pre- to post-intervention. Similarly, Baker et al. (2018) found no difference in compassion fatigue and noted that burnout and secondary traumatic stress scores both moved in an unfavourable position from pre- to post-intervention. These results may be explained by the qualitative findings of this study, as increased

awareness of the problem of vicarious traumatisation may have been responsible. Finally, McIntyre et al. (2019) found that when teachers viewed trauma-informed practices as a good fit for their school, increases in participant knowledge were associated with higher levels of acceptability towards these approaches. Conversely, when teachers did not see these approaches as a good fit, increased knowledge levels were associated with lower levels of perceived acceptability. Although these findings did not affect WoE scores as they were unrelated to the target variables of the review, they contribute valuable insights into the impact of professional development interventions in the area of trauma-sensitivity.

2.2.3 Conclusion

The aim of the current review was to evaluate the effectiveness of professional development interventions related to trauma and trauma-sensitive approaches/practices in improving the self-efficacy, attitudes, knowledge and understanding, and perception of roles of staff in educational settings. Six studies fulfilled inclusion criteria and were subsequently appraised throughout this review. Perhaps the most important review-related discovery was the findings of the appraised studies. Four of the five studies who assessed the impact on participants' knowledge of trauma and trauma-informed approaches reported significant improvements as a result of the training interventions. Large effect sizes were noted by McIntyre et al. (2019; $p<.01$, $d=1.52$) and Dublin et al. (2019; $p<.001$, $d=1.20$). Similarly, Brown et al. (2012; $p<.001$ for all groups) and Dorado et al. (2016; all results $p<.001$) both reported significant increases for all knowledge variables. Notably, measures utilised and the quality and location of the training intervention may have contributed to the non-significant results reported by Crable et al. (2013). Neither validity nor reliability were reported for any of their measures used, which

raises the possibility these measures may have been inappropriate to utilise and may not have accurately measured the target variables (Crable et al., 2013). Additionally, participants' satisfaction scores with the training decreased significantly from pre- to post-intervention and participants highlighted the training setting as not conducive for learning. This raised the possibility the training itself and the training site may have been below an acceptable standard and may have impacted on the results produced. Improvements were also observed with regards to the target variable of staff attitudes/beliefs towards trauma-informed care, as reported by Brown et al. (2012). Increases were found for all groups who received one, or both, of the professional development interventions delivered. Similar improvements were reported in this variable by Baker et al. (2018). Additional benefits were also observed in variables including staff behaviour (Brown et al., 2012), the use of trauma-sensitive practices (Dorado et al., 2016) and a range of vital student-related outcomes (Dorado et al., 2016). While these were not target variables, they highlight the effectiveness of staff training in improving a huge range of vital education-related outcomes.

While all included studies have strengths, none sufficiently answered the review question. This is perhaps most obvious in relation to outcome variables, as aside from the Brown et al. (2012) and Dublin et al. (2019) who assessed two target variables, the remaining studies explored only one variable of interest. Similarly, the content of the professional development intervention is questionable in the studies of Baker et al. (2018), Brown et al. (2012), Dublin et al. (2019) and Dorado et al. (2016). In these studies, it is unclear if the core principles/key domains of a trauma-informed approach are included as part of the intervention, representing the omission of an important aspect of trauma-informed education (Guarino & Chagnon, 2018).

Participant sample and intervention setting are also not fully addressed by all included studies. This is evidenced by Baker et al. (2018), Brown et al. (2012), Crable et al. (2013) and Dublin et al (2019) as none consisted fully of education staff or utilised a specific educational setting as their intervention location. It may therefore be advisable that the results provided by McIntyre et al. (2019) and Dorado et al. (2016) receive greater weighting as these studies utilised the target intervention setting and participant sample. Notably, five included studies were undertaken in the U.S, while the study of Baker et al. (2018) was undertaken in Canada. While not a methodological or conceptual hindrance, this raises uncertainty regarding the generalisability of the findings across other countries and cultures.

Reservations are also present with reference to the contexts of the included studies. Although all authors specified the type of staff undertaking the training, only Brown et al. (2012) indicate whether professional development was undertaken within a whole-organisation context or with a random selection of staff members and whether the organisation's leadership were involved. Similarly, only McIntyre et al. (2019) provided details regarding the level of system readiness and trauma-informed interventions already in place. Though these factors did not impact on the appraisal criteria of this review, they raised queries regarding the generalisability and replicability of findings. This is true particularly as Brown et al.'s (2012) results suggest a professional development intervention is most effective when undertaken in a whole-organisation approach, when influential system leaders are involved, and when trauma-sensitive concepts are already in place to some extent, with or without school staff realising it.

While positive findings were reported for the effectiveness of professional development in five studies, one cannot ignore the weightings attributed under Gough's (2007) WoE framework. Of the studies analysed, none received a 'High' overall WoE rating (WoE D), five received a 'Medium' score (Baker et al., 2018; Brown et al., 2012; Crable et al., 2013; Dublin et al., 2019; McIntyre et al., 2019), and one received a 'Low' score (Dorado et al., 2016). This suggests that while findings were encouraging, a number of areas of concern exist, including controls and sample size utilised. A lack of a suitable control group was observed in all studies except Crable et al. (2013), suggesting a possible threat to internal validity in the remaining studies due to potential confounding variables (Wright & Lake, 2019). Similar concerns were present regarding the sample sizes utilised in several included studies. The number of participants utilised in groups by both Crable et al. (2013; 20 per group) and Brown et al. (2012; average of 21.75 per group) fell below Cohen's (1992) recommendation of the number of participants required based on a medium effect size and alpha level of .05. Inadequate sample size may therefore have played a role in failures to extrapolate significant results, which is relevant particularly in the study of Crable et al. (2013; Faber & Fonseca, 2014). Additional concerns are present regarding the fidelity of the interventions implemented and the measures utilised. While manualisation was evident in all studies aside from Crable et al. (2013), all failed to report evidence of acceptable adherence. This raises the possibility that the interventions may not have been implemented exactly as designed, potentially impacting results. Failures to report pertinent information was also noted in the study of Crable et al. (2013), as they failed to report validity or reliability for any measures used, and the study of Brown et al. (2012), as validity of measures was not stated. Furthermore, while reliability and validity statistics were

highlighted in the remaining studies, only the Child and Adolescent Needs and Strengths Scale, used by Dorado et al. (2016), the Usage Rating Profile-Intervention Revised, used by McIntyre et al. (2019), and the Trauma-Informed Belief Measure, used by Baker et al (2018), were valid and reliable. Reliability was reported for a number of other measures utilised. This is a concerning finding as the Trauma-Informed Belief Measure utilised by Baker et al. (2018) was the only measure cited as reliable and valid which assessed any target variables of this study, highlighting a threat to interval validity (Mohajan, 2017).

When analysing the included studies, it is clear that although some conceptual and methodological flaws exist, results supporting the effectiveness of a professional development intervention in improving numerous key staff variables are very encouraging. Of the six included studies, five reported significant positive results. Only Crable et al. (2013) failed to attain results supporting the effectiveness of a staff training intervention, and as discussed previously, their results may have been impacted by the quality of the training intervention itself and the training setting. The substantial positive results reported by McIntyre et al. (2019) lend most to the perceived effectiveness of professional development as except for the lack of a control group, this study effectively addresses most other appraisal criteria. Therefore, its results are considered most important for this review. The findings of this review are particularly important considering the association between increased knowledge levels and direct positive implications for educational practices (Resnick & Zurawsky, 2005; Snow-Renner & Lauer, 2005). It is worth noting however that although encouraging results have been reported, most focus solely on knowledge increases, with only Brown et al. (2012) and Baker et al. (2018) also noting improvements in staff beliefs towards trauma-informed care. Similarly, concerns

have been presented regarding the generalisability of findings and the failure of the majority of included studies to specify the contexts in which their research was undertaken. Therefore, while preliminary findings provide substantial support to Hanson and Lang's (2016) assertion that professional development should be the first area addressed when implementing trauma-sensitive approaches in schools, further research is required which explores additional variables of interest and addresses the areas of uncertainty highlighted in this review.

2.2.4 Implications for Theory and Practice

The primary recommendation of the current review is that future research exploring the effectiveness of trauma-sensitive professional development interventions in educational settings with education staff is required. It is advised this research addresses not only participants' knowledge and understanding of trauma and trauma-informed approaches, but also explores the other target variables of this review. Similarly, it is recommended this professional development intervention addresses all three areas of trauma and its impact, the core principles/key domains of a trauma-informed approach, and strategies or skills required for trauma-sensitivity. This would allow evidence supporting knowledge gains to be strengthened and would help to determine if these interventions are effective in improving other vital implementation-related variables, such as staff attitudes, self-efficacy and perception of their roles (Butt & Lowe, 2012; Carroll et el., 2003; Guskey, 1998; Keys & Bryan, 2000). Additionally, the results of Brown et al. (2012) have highlighted the potential value in utilising a whole school-system approach in which school leadership are involved and trauma-sensitive concepts are already being implemented to some extent. It may therefore be best if a professional development intervention is delivered to education staff within this context and is delivered in a country outside

of the U.S. or Canada to address concerns regarding generalisability of findings. Utilising reliable measures is also recommended, as is employing strategies to guarantee fidelity and the correct implementation of the intervention, such as formal training, supervision and manualisation. Finally, a control group should also be utilised in future research. Although positive results have been reported by McIntyre et al. (2019), Dorado et al. (2016) and Brown et al. (2012), confounding variables cannot be discounted as these studies lacked appropriate control groups. The importance of utilising a control group is further emphasised as only the study of Crable et al (2013) utilised this methodological feature and they did not find significant results. It is clear that professional development interventions have huge potential in improving key variables related to successful implementation of trauma-informed approaches. Undertaking future research such as that described above is therefore imperative, as it may succeed in finally demonstrating the substantial potential of these invaluable interventions.

Chapter Three

Empirical Paper

3.1 Introduction

3.1.1 Childhood Trauma

Over the past 20 years, childhood trauma has arisen as an international public health crisis described as “the single most important public health challenge in the United States” (van der Kolk, 2005, p.401). Childhood trauma refers to a single event, number of events or situation experienced by a child as life-threatening or detrimental to their physical or mental health (Guarino & Chagnon, 2018; NCTSN, 2008; 2019a). These encounters can overwhelm a child’s ability to successfully cope and result in negative impacts in areas including mental, physical and emotional well-being (Guarino & Chagnon, 2018; NCTSN, 2008; 2019a). Children may display traumatic stress as a result of any situation in which this threat is present, such as natural disasters, serious injury to themselves, witnessing violence, being abused or neglected, and being forced from their homes as refugees (NCTSN, 2019a; SAMHSA, 2014).

Although the detrimental effects of childhood trauma have long been known, the true harm of these experiences was undiscovered prior to the seminal ACEs study undertaken by Kaiser Permanente and the CDC (Felitti et al., 1998). Adverse Childhood Experiences represent ten specific categories of childhood trauma which occur in the first 18 years of an individual’s life and involve abuse, household challenges or neglect (CDC, 2016; SAMHSA, 2018). A ‘dose-response’ relationship was identified between ACEs and serious health issues in later life, with the risk of a substantial number of health-related concerns increasing in line with the number of ACEs an individual has experienced. Heightened risks were identified for physical health problems, such as heart, liver and lung disease, cancer, severe obesity and poor self-related health, as well as mental health difficulties including depression,

alcoholism, drug abuse and increased suicidality and suicide attempts (Felitti et al., 1998; Hughes et al., 2017).

Recent research has investigated the impact of ACE categories extending beyond those originally identified by Felitti et al. (1998). These include being bullied, criminality within the household, growing up in a single parent family, the death of a parent, relative or close friend, serious illness or injury to the child or a member of their family, poverty/family financial problems, poor child-parent relationship and witnessing events such as violence or crime (Hughes et al., 2017). In line with the original ACE study, a 'dose-response' relationship was observed between many of the extended ACE categories and serious health issues in later life (Hughes et al., 2017). While many consequences were similar to the original ACE study, relationships were also observed with novel outcomes including problematic drug and alcohol use, respiratory disease, and violence towards oneself and others (Hughes et al., 2017). Although the potential negative impacts of childhood trauma have predominantly been demonstrated through ACE-related research, a wide range of experiences, and not just ACEs, can prove traumatic for children (ChildTrends, 2019; Marich, 2019; Ogle et al., 2015).

Exposure to stress in childhood is an integral part of healthy development essential in survival and learning to cope (NSCDC, 2014). When children face stressful situations, their stress response systems are triggered, resulting in the activation of a range of physiological, hormonal and neurochemical reactions, most notably the 'fight or flight' response (Murison, 2016; NSCDC, 2014). When children have access to supportive attachment relationships and protective factors, they are able to draw on their resilience and positive experiences to avail of support to help them overcome stressors (NSCDC, 2014). When this occurs, stress responses are

returned to baseline and result in the development of resilience and healthy stress response systems, known as ‘positive’ or ‘tolerable’ stress response systems (COTDC, 2015, 2019; NSCDC, 2014). Examples of occasions where this occurs include stress responses to everyday stressors, such as completing exams or losing a match (NSCDC, 2014). Similarly, in the face of traumatic experiences, children who are securely attached and have sufficient protective factors can draw on these resources to overcome traumatic stress experienced, such as when they are bereaved (COTDC, 2015, 2019; NSCDC, 2014). This enables them to successfully adapt to traumatic stress and maintain healthy functioning with only mild trauma-related symptoms occurring either during, or shortly after, traumatic events (COTDC, 2015; Layne et al., 2009; Masten, 2014). This does not imply that the child has not been changed by these negative experiences, but rather, their resilience and protective factors have allowed them to adapt and move forward in a healthy manner (COTDC, 2015).

Conversely, when children are exposed to frequent, prolonged and intense traumatic stressors without sufficient protective supports, toxic stress can result (COTDC, 2019). When this occurs, children’s stress response systems are persistently activated, resulting in a ‘wear and tear’ effect on the body itself, known as the “allostatic load” (COTDC, 2019; NSCDC, 2014, p.145). This is associated with severe distress and maladaptive functioning as when crucial protective factors are absent, children are unable to effectively adjust and cope to alleviate the level of traumatic stress they are experiencing and return to baseline (Layne et al., 2009). This distress can also occur in the presence of some level of support, but as children who have experienced high levels of trauma may not trust those around them, they may be unable to access these protective factors (COTDC, 2019; Layne et al., 2009).

Substantial negative effects have been noted with toxic stress, including inhibited gene expression and impaired brain development, such as the overproduction of neural connections in areas associated with fear and anxiety and decreased volume of vital areas including the hippocampus and cerebellum (Akiki et al., 2017; COTDC, 2019; Liu et al., 2017; NSCDC, 2014). Impairment across all other areas of development are also evident, most notably cognition, behaviour, physical development, and social and emotional competence. Lower cognitive functioning scores, distorted sense of self, difficulties with internalising and externalising behaviours and increased medical problems, as well as impaired self-esteem, executive functioning and academic achievement have all been linked to toxic stress (Enlow et al., 2012; Little & Akin-Little, 2013; Mills et al., 2011; Milot et al., 2010; Painter & Scannapieco, 2013; van der Kolk et al., 2019). Additional difficulties are present in the form of disorganised attachment relationships with caregivers, as over 80% of perpetrators responsible for childhood maltreatment are the child's own parents (Mikulincer et al., 2011; Ogle et al., 2015; van der Kolk, 2005, 2014, van der kolk et al., 2019). Similarly, the development of maladaptive neurobiological responses to perceived danger may occur, such as hyperarousal and dissociation, which both further impair functioning and brain development (Akiki et al., 2017; Lanius, 2015; NSCDC, 2010, 2014; Perry et al., 1995; van der Kolk, 2005, 2014).

3.1.2 Trauma-Sensitive Approaches in Education Settings

Schools represent natural systems with the potential to mitigate against many of the negative effects of experiencing trauma and support all aspects of children's growth (Chafouleas et al., 2016; Overstreet & Chafouleas, 2016). Trauma-sensitive schools approaches accomplish this through the creation of supportive educational

environments (SAMHSA, 2014). Within these environments, the impacts of trauma are recognised and the needs of traumatised students are responded to in a manner which promotes the healing of students and avoids re-traumatisation (Overstreet & Chafouleas, 2016; SAMHSA, 2014). Research shows whole-school, systematic approaches are required which endorse "trauma awareness, knowledge and skills into their organisational cultures, practices and policies" and implements efficient partnership between all levels of the system to "facilitate and support the recovery and resiliency of the child" (NCTSN, 2016, p.1). Legislation acknowledging the importance of trauma-sensitive approaches is beginning to emerge internationally (Scottish Government, 2018). While no legislation in Ireland reflects this approach to date, significant focus has been placed on the development of well-being in schools (DES, 2019a). Education staff are now required to engage in professional development and school self-evaluation to improve their ability to cultivate student well-being (DES, 2010, 2013, 2015, 2016a, 2017, 2018a, 2019a, 2019b).

When implemented effectively in schools, trauma-sensitive approaches can result in numerous benefits. These include improved staff use of trauma-sensitive practices and enhanced teacher perceptions of their students' ability to learn, as well as improved knowledge and understanding of traumatic triggers and awareness of a child's background (Dorado et al., 2016; Holmes et al., 2014; Longhi, 2015). Improvements have also been reported in students' academic grades, attention, internalising behaviour, emotional and behavioural regulation, school engagement, drop out levels, school attendance and time on task in class (Dorado et al., 2016; Holmes et al., 2014; Longhi, 2015; NCTSN, 2010; Reschly & Christenson, 2006). Similarly, decreases have been noted in overall behaviour problems, teaching time lost to disciplinary issues, and trauma-related symptoms (Dorado et al., 2016).

Benefits are also identifiable at pre-school level. For example, Shamblin et al (2016) note that following intervention, teachers felt more confident, competent and hopeful in addressing the needs of their students, the quality of the learning environment improved, and students showed higher levels of childhood resilience and decreased negative behaviours. This approach also enables teachers to assume the role of attachment figures by providing children with alternative internalised working models of the role of adults and interactions with them which demonstrate reliable, healthy and adaptive relationships (Bergin & Bergin, 2009; COTDC, 2015, 2019; NCTSN, 2010, 2014; Riley, 2010). This has the potential to reduce the negative effects of attachment difficulties with parents/caregivers and enhance academic achievement, emotional resilience, emotional regulation and social functioning (Bath Spa University, 2018; Hamre & Pianta, 2006). Importantly for education staff themselves, this strategy may foster their ability to identify and cope with secondary traumatic stress, vicarious trauma, and burnout, which is common among those working with traumatised students (Hydon et al., 2015; Maynard et al., 2019; NCTSN, 2011).

3.1.3 Trauma-Sensitive Approaches and Professional Development

Trauma-sensitive approaches represent complex practices requiring the implementation of numerous components at a number of levels (Maynard et al, 2019). Hanson and Lang (2016) cite three areas required for trauma-sensitive schools to operate effectively. These include: 1) Staff professional development; 2) Whole-school change in school environment and practices to aid learning and reduce traumatisation and re-traumatisation; and 3) Changes in trauma-focused practice including utilising screening procedures and whole-school, classroom and individual trauma-specific interventions (Maynard et al., 2019). Staff professional development

is highlighted as the component which most effort and resources should be used to target, with over 400 trauma-focused researchers and practitioners noting this as most crucial when implementing trauma-sensitive approaches (Hanson & Lang, 2016). This importance is reflected in research, with professional development of staff improving variables crucial to successful implementation of novel approaches in education settings (Breffni, 2010; Durlak & DuPre, 2008). Improvements have been noted in variables including education staffs' self-efficacy in relation to implementing specific interventions, their knowledge, understanding and attitudes towards specific approaches and populations of students, and their perceived ability to successfully fulfil their educational roles (Breffni, 2010; Butt & Lowe, 2012; Carroll et al., 2003; Cullen et al., 2010; Durlak & DuPre, 2008; Guskey, 1998; Keys & Bryan, 2000; Resnick & Zurawsky, 2005). Trauma-sensitive professional development interventions in educational contexts are suggested as most effective when undertaken in a whole-organisation approach, when influential system leaders are involved, and when trauma-sensitive concepts are already in place to some extent, with or without staff realisation (Brown et al., 2012). Improvements have also been mirrored in relation to trauma-sensitive approaches in professional domains such as child protection services, social workers and police (Damian et al., 2018; Kuhn et al., 2019; Layne et al., 2011).

Although professional development is noted as imperative when implementing trauma-sensitive approaches in education settings, a dearth of evidence exists to support its value in enhancing crucial implementation-related variables (McIntyre et al., 2019). This is a stark finding considering the emphasis placed on this component and the realisation that although up to 50% of students who do not experience war will experience trauma in their lives, many of their teachers cannot effectively

support them due to factors such as inadequate knowledge and skills (Alisic et al. 2012; Copeland et al., 2007). Compounding this issue further is the lack of professional development interventions in trauma-sensitivity that are specific to education settings, although change may be afoot in this regard (Crosby, 2016).

3.1.4 Trauma-Sensitive Schools Training Package

The TSSTP is a comprehensive programme designed by the American Institutes for Research, under contract from the U.S. Department of Education, to foster trauma-sensitive schools (Guarino & Chagnon, 2018). This package is based on significant literature in the areas of trauma and its impacts, trauma-informed care globally, emerging practices in trauma-sensitive approaches in schools, and implementation science (Guarino and Chagnon, 2018). The TSSTP is grounded in psychological theory from a multitude of areas, including attachment theory and the integral role of relationships in successful trauma recovery, with a focus on developing supportive relationships a central theme within the package (Ainsworth, 1973; Bowlby, 1969; COTDC, 2015, 2019; Guarino & Chagnon, 2018). Similarly, the authors draw from theory proposing professional development interventions are imperative in installing trauma-sensitive approaches in schools and have positive impacts on students, staff and crucial implementation-related variables (Dorado et al., 2016; Hanson & Lang, 2016; Hydon et al., 2015; McIntyre et al., 2019; van der Kolk, 2014). The authors identify several programme aims, including developing an understanding of trauma and its impact among education staff and equipping such personnel with the skills to effectively recognise and respond to trauma within their school environments (Guarino & Chagnon, 2018). Although the development of the TSSTP was funded by the U.S. Department of Education, it had not previously been evaluated prior to the current study. While based on strong theoretical and literature

bases, this raises concerns regarding the certainty with which this intervention can confidently be recommended for implementation in schools (Chambless & Hollon, 1998; Dharni et al., 2019; Komro, Flay, Biglan, & Wagenaar, 2016; Public Health England, 2018). In order to be noted as 'efficacious', interventions need to be evaluated and replicated in at least two contexts by two or more research teams, with interventions defined as 'possibly efficacious' when independently evaluated by one research team (Chambless & Hollon, 1998, p.8). Due to the lack of research support available, the TSSTP cannot be defined as either 'efficacious' or 'possibly efficacious' at present (Chambless & Hollon, 1998, p.8; Komro et al., 2016; Public Health England, 2018). This does not imply the TSSTP is ineffective, but rather, highlights the need for further investigation to be undertaken to evaluate its effectiveness in achieving the programme aims of the intervention as described above (Chambless & Hollon, 1998; Dharni et al., 2019; Komro et al., 2016; Public Health England, 2018).

3.1.5 The Current Study

The current study aimed to add to the literature base in the area of trauma-informed approaches and assess the impact of Modules 1 and 2 of the TSSTP on a range of education staff variables. Additionally, the current study aimed to become the first Irish study to explore the impact of a trauma-sensitive schools professional development intervention. In this study, education staff represented personnel working in education settings in the Republic of Ireland. These included teachers and SNAs, who are non-teaching staff that provide support to students with significant care needs in the Irish school system (National Council for Special Education, 2018). SNAs are akin to 'paraprofessionals' in the U.S. school system and 'Teaching Assistants' in the United Kingdom, although some disparity exists between the roles

and definitions of these non-teaching staff internationally (Griffin-O'Brien, 2018; National Council for Special Education, 2018). Participants also included the school-assigned educational psychologist from the NEPS. This service provides psychological support to primary and post-primary schools in the Republic of Ireland (DES, 2010). Aims were achieved by delivering and evaluating the impact of the whole-school modules of the TSSTP (Module 1: Understanding Trauma and Its Impact; and Module 2: Building Trauma-Sensitive Schools) on several staff variables identified as vital in the successful implementation of interventions in education settings. The current study proposed the following hypotheses:

It was hypothesised training in Modules 1 and 2 of the TSSTP would:

1) Improve participants' knowledge and awareness of trauma and its impact on learning
2) Improve participants' (a) GSE in working with students; and (b) SERSAT
3) Improve participants' attitudes towards trauma-sensitive practices
4) Improve participants' perception of their role in responding to the needs of students affected by trauma

The current study also aimed to elicit feedback from participants regarding their perceptions of the training intervention received and their likelihood, and commitment, to implementing content from the training.

3.2 Methodology

3.2.1 Design

A 2 x 2 mixed quasi-experimental, non-equivalent wait-list control group design was employed. The between-subjects variable, within-subjects variable and the dependent variables can be observed in Table 6.

Sequential mixed-methods were used for this explanatory project. This consisted of pre- and post-intervention quantitative assessment and post-intervention qualitative assessment in which 14 participants from the intervention group engaged in audio-recorded, semi-structured interviews with the researcher.

Aspects of a case-study design were also utilised. The intervention school was defined as the unit of analysis and was bounded by the inclusion of all education-related staff working in the school (Dennis, 2019; Yin, 2014). This approach was incorporated as Guarino and Chagnon (2018) state it is crucial for all personnel interacting with students and parents to be educated on trauma to guarantee a shared understanding and consistent approach when responding to trauma.

The current study received full ethical approval from Mary Immaculate Research Ethics Committee, Limerick.

Table 6

Details of study variables

Independent Variable Name	Independent Variable Details
Between-Subjects Variable – Experimental Group	• Intervention Group The intervention group received professional development in the form of Modules 1 and 2 from the TSSTP professional development intervention
	• Wait-List Control Group The control group received no intervention during the same time period. They were given the option to engage in the intervention at a later date.
Within-Subjects Variable – Time	• Intervention Group Participants from the intervention group completed quantitative assessment at two time points (Pre- and Post-Intervention), with six weeks between time points.
	• Wait-List Control Group The wait-list control group also completed assessments twice across the same time period and had the same time frame between initial and re-assessment.
Dependent Variable Number	**Dependent Variable Details**
Dependent Variable 1	Knowledge and understanding of trauma and its impacts on students
Dependent Variable 2	GSE and SERSAT
Dependent Variable 3	Staff perspectives of their roles in responding to students affected by trauma
Dependent Variable 4	Staff attitudes towards trauma-informed practices

3.2.2 Participants

Study participants consisted of education staff working in two primary schools in a large town in the Republic of Ireland.

The intervention school was a co-educational primary school and participants comprised teachers (n=28), SNAs (n=10), the school principal, and the NEPS educational psychologist assigned to the school. All members of the school leadership team were included among these participants. This comprised of the school principal, deputy principal and all post-holders in the school. One teacher and one SNA did not complete post-assessment and accordingly, their data was removed from the study. Prior to the intervention, the principal of this school reported staff had a 'good understanding of trauma' and were 'very empathetic and concerned' in relation to trauma. No staff had previously received trauma-specific training and trauma was not referenced in any school policies. A number of trauma-sensitive approaches were underway within the school including Friends for Life and Incredible Years, as well as individual pupil referrals to professionals for play therapy and art therapy. At the time of the intervention there were 406 students attending the school (250 boys; 156 girls). The principal noted her belief that 'at least ten students were affected by trauma in the school at any one time'.

The wait-list control school comprised a co-educational primary school to first class, with female students only from second to sixth class. Participants included teachers (n=18) and the school principal. Only teachers were included as participants as a sufficient number of SNAs were not employed in this school. A range of whole-school, trauma-sensitive interventions were underway within the school including restorative practices and the Roots of Empathy program (Gordon, 2005). All 19

participants completed pre- and post-assessments. At the time of the study, 272 students were attending this school (29 boys; 243 girls).

Both participating schools were included in the DEIS Action Plan for Educational Inclusion scheme (DES, 2005, 2017). This scheme aims to address educational disadvantage in Irish schools by providing additional supports to schools with a high number of pupils from disadvantaged communities (DES, 2017). The two schools included in this study were classified as DEIS Band 2 due to the high concentration of disadvantage among their pupil population. Schools included in the DEIS scheme were chosen for the purpose of this study as many pupils attending these schools have been identified as experiencing trauma and difficulties in their home environments (Irish National Teachers' Organisation, 2015).

Both schools were located in close proximity to one another and both served a similar population of students from the same geographical area. Both schools were selected by purposive sampling due to the large number of teachers employed in these schools and their DEIS Band 2 status.

3.2.3 Procedures

Purposive sampling was utilised to source both schools. School principals were contacted and the purpose and potential benefits of the study were explained. Participants were then provided with study information and informed consent was subsequently attained.

Two weeks prior to undertaking the intervention, teacher and SNA participants in both schools completed six quantitative measures, as outlined in Table 6. Pre-intervention measures were all returned to the researcher prior to undertaking the

intervention. Modules 1 and 2 of the TSSTP were then delivered to all participants of the intervention school by the researcher over three sessions in September and October 2019. Sessions were 90 minutes in duration and were delivered in the participants' school setting during school 'Croke Park Hours'[2] (DES, 2011, 2016b), with two weeks between each professional development session. Sessions were in lecture format predominantly, with frequent activities and group discussions incorporated, as outlined by the programme authors (Guarino & Chagnon, 2018). The content covered in these sessions can be seen in Table 7. Participants in the control group continued their usual school routine during this time. Post-intervention the six quantitative measures were re-administered to participants in both schools. Participants in the intervention school also completed a training evaluation survey post-intervention.

[2] Croke Park Hours (DES, 2011, 2016a) are 36 additional hours teachers in the Republic of Ireland are required to undertake over the school year (one per week). The central purpose of the additional time requirement is to provide for a range of essential activities to take place without reducing class contact/tuition time. These include some or all of the following items: school planning; continuous professional development; induction; pre and post school supervision; policy development; staff meetings; nationally planned inservice; school arranged inservice (DES, 2016a, p.3)

Table 7

Modules 1 and 2 of the Trauma Sensitive-Schools Training Package

Session Number	Content
Session 1: Understanding trauma and its impacts	• What is trauma and who is affected? • How do we respond to stress? • What is the impact of exposure to trauma? • What does this mean for schools?
Session 2: Building trauma-sensitive schools (Part 1)	• Introduction to trauma • Introduction to trauma sensitivity • Domain 1 – Support staff development • Domain 2 – Create a safe and supportive environment
Session 3: Building trauma-sensitive schools (Part 2)	• Domain 3 – Assess needs and provide support • Domain 4 – Build social and emotional skills • Domain 5 – Collaborate with students and families • Domain 6 – Adapt policies and procedures • Sustain trauma-sensitivity

Post-intervention, 14 participants from the intervention school participated in audio-recorded, semi-structured interviews with the researcher on a one-to-one basis. These included teachers (n=6), SNAs (n=6), the school principal and the NEPS educational psychologist. Statistical analysis of teacher and SNA scores in the Teaching Traumatized Students Scale (TTS; Crosby, Somers, Day, & Baroni, 2016) was utilised to select participants for interview. The three teachers and SNAs whose responses were closest to one standard deviation above the mean in this scale were invited to participate. Similarly, the three teachers and SNAs whose scores were closest to one standard deviation below the mean were also invited to participate. Participants were free to decline and when this occurred, the participant with the next closest score was invited to participate.

3.2.4 Measures

Teachers and SNAs in both schools completed six quantitative measures at pre- and post-assessment. Psychometric properties of these measures can be observed in Table 8. DeVillis (2016) cites .7 as a respectable Cronbach's Alpha score, with .8 highlighted as very good.

3.2.4.1 Attitudes Related to Trauma-Informed Care–10 Item Form (Baker, Brown, Wilcox, Overstreet, & Arora, 2016)

The Attitudes Related to Trauma-Informed Care–10 Item Form (ARTIC-10) is a ten-item measure utilised to assess the attitudes of teachers and SNAs towards trauma-informed care. In each item, participants were given two contrasting statements and asked to select the option along a seven item Likert scale they felt best represented their personal beliefs over the past two months. Along this continuum'1' signified *strongly agreeing* with one statement, '7' signified *strongly agreeing* with the converse statement and '4' represented a *neutral attitude* between both.

Table 8

Psychometric properties of measures used in the current study

Measure	Previous Reports of Psychometric Properties	Cronbach's Alpha Score at Pre-Assessment in the Current Study	Questions Removed with Rationales in the Current Study
ARTIC-10	Baker et al. (2016) reported strong psychometric properties – Cronbach's Alpha score of .82; very good test-retest reliability; validity reported with the specific population utilised in this study.	• Teachers .713 • SNAs .709 (Questions one, two, seven and ten were removed)	Questions one, two, seven and ten were removed from the SNA scale due to concerns regarding reliability scores. If these questions were not removed a Cronbach's Alpha score of -.144 was produced.
ARTIC-35 Self-Efficacy Sub-Scale	Baker et al. (2016) reported strong psychometric properties – Cronbach's Alpha score of between .71 and .81; very good test-retest reliability; validity reported with the specific population utilised in this study.	• Teachers .761 • SNAs .586 (Questions four and five were removed). *While this fell below the recommended range of .7, the mean inter-item correlation was between .2 and .4 (highlighted as the optimal range for inter-item correlation of items on short scales; Briggs & Cheek, 1986).	Questions four and five were removed from the SNA scale due to concerns regarding reliability scores. If these questions were not removed a Cronbach's Alpha score of .439 and a mean inter-item correlation of .116 was produced.

TSES	Tschannen-Moran & Woolfolk Hoy (2001) reported strong psychometric properties – Overall Cronbach's Alpha score of .90; Cronbach's Alpha scores of .81 for student engagement, .86 for instructional strategies and .86 for classroom management; Validity reported with the specific population utilised in this study	• Teachers - Overall score of .885; .740 for student engagement, .829 reported for instructional strategies, and .787 for classroom management. • Overall score .710 (Question four was removed)	The TSES short form was amended in this study for use with SNAs. This was accomplished by removing questions which were not deemed suitable for the role of the SNA. Question four was also removed from the SNA scale due to concerns regarding reliability scores. If this question was not removed a Cronbach's Alpha score of .566 was produced.
TTS	Considered a reliable measure, as reported by Crosby et al. (2016) – Overall Cronbach's Alpha score of .91	• Teachers .857 • SNAs .927	The TTS was amended in this study for use with SNAs. This was undertaken by amending one item from 'design' to 'implement' in relation to strategies to engage students in learning to reflect the role of the SNA.

3.2.4.2 ARTIC-35 Item Form: Self-Efficacy Subscale (Baker et al., 2016)

The self-efficacy subscale from the ARTIC-35 was utilised to assess the perceptions of teachers and SNAs towards their ability to meet the demands of working with a traumatised population. This consisted of seven items taken from the ARTIC-35, with a similar response format to the ARTIC-10 items.

3.2.4.3 Teachers' Sense of Efficacy Scale: Short Form (Tschannen-Moran & Woolfolk Hoy, 2001)

The Teacher's Sense of Efficacy Subscale short form (TSES) was used to assess teachers' overall profession-related self-efficacy. In this assessment, teachers rated 12 items on a nine-item Likert-like scale ranging from '1' (*none at all*) to '9' (*a great deal*). Scores were produced for three main areas (student engagement, instructional strategies and classroom management), with an overall score also generated. The TSES short form was amended in this study for use with SNAs. This was accomplished by removing questions which were not deemed suitable for the role of the SNA, such as 'How well can you establish a classroom management system with each group of students?'. The sole score produced from this measure was an overall score.

3.2.4.4 The Teaching Traumatized Students Scale (Crosby et al., 2016)

The TTS is a nine-item measure utilised to assess teachers' overall awareness of trauma and its impact on learning. Response options ranged from '1' (*strongly disagree*) to '5' (*strongly agree*), with an overall score produced from teacher responses. The TTS was amended in this study for use with SNAs. This was undertaken by amending one item from 'design' to 'implement' in relation to strategies to engage students in learning to reflect the role of the SNA.

3.2.4.5 Knowledge and Understanding of Trauma and its Impact Assessment (Adapted from Dorado et al., 2016)

The Knowledge and Understanding of Trauma and its Impact assessment (KUTIA) is a four-item measure utilised to assess a range of aspects of participant knowledge and awareness of trauma and its impact. Item one addressed knowledge of trauma and its impact on children, item two addressed understanding of how to help traumatised students in school, item three addressed knowledge of trauma-sensitive practices, and item four addressed knowledge of burnout and vicarious traumatisation. Individual scores were produced for each item in this measure, with response options presented in a five-item Likert scale ranging from '*poor'* to '*excellent'*. This measure was adapted for use in the current study by removing questions which pertain to the impact of implementing trauma-sensitive practices on student variables, such as time on task in the classroom. While psychometric properties were not available for this measure, it has previously been utilised in published research (Dorado et al., 2016).

3.2.4.6 Staff Perception of Role Survey (Adapted from Reker, 2016)

This four-item measure was used to assess the degree to which staff viewed themselves as responsible for responding to the academic, emotional, and behavioural needs of students affected by trauma. This measure also evaluated whether staff believed it was important for all staff members to have an active role in supporting students affected by trauma. Individual scores were produced for each item in this measure, with response options presented in a five-item Likert scale ranging from '*strongly disagree'* to '*strongly agree'*. This measure was adapted for use in this study by removing questions which addressed staff perceptions of the role of the school psychologist in supporting students affected by trauma. For SNA use,

the item relating to academic needs was removed to reflect their role. While psychometric properties were not available for this measure, it has previously been utilised in published research (Reker, 2016).

3.2.4.7 Training Evaluation Survey (Adapted from Ruttledge et al., 2016)

This two-item measure was used with the intervention group post-intervention to evaluate social validity. This was accomplished by assessing participants' perceptions of how likely and how committed they were to implement content they have learned in the intervention with their students. Response options on this measure were presented in a Likert-like format, ranging from '1' (*extremely unlikely* or *extremely uncommitted*) to '10' (*extremely likely* or *extremely committed*). Individual scores were presented for each item. This measure was adapted for use in this study by expanding the Likert scale from a four to ten item scale, and by focusing on participants' perspectives towards using content in the future rather than how often they used the content to date.

3.2.4.8 Fidelity of Implementation (Adapted from Ruttledge et al., 2016)

To ensure the intervention was delivered with fidelity, checklists were developed for use in each intervention session. These were adapted for use in this study to reflect the content of the present professional development intervention. Checklists were coded by both the researcher and the NEPS psychologist and were returned to the researcher at the end of each intervention session. This represented a strong assessment of fidelity as checklists are highlighted as appropriate and viable tools for ensuring fidelity (Kaderavek & Justice, 2010). Additionally, both direct and indirect assessments of fidelity were included, with direct assessment of fidelity identified as the gold standard (Kaderavek & Justice, 2010). While not as effective as

direct assessment when used individually, the use of indirect evaluation was seen as a valuable alternative and further ensured implementation fidelity (Burgio et al., 2001; Kaderavek & Justice, 2010). Identical checklists were produced by both the researcher and psychologist for all sessions which demonstrated 100% inter-rater reliability. All training content was completed in sessions one and three. In session two, 'Activity 3: Mapping Triggers and Opportunities' and 'Activity 4: Navigating Crises' were not completed due to time constraints. Instead, these activities were explained briefly to participants who were then asked to complete them independently post-session.

3.3 Results

As a number of quantitative variables presented as non-normally distributed, transformation of these variables was undertaken according to Templeton's (2011) two-step approach for transforming continuous variables to normal.

3.3.1 Quantitative Results - Teachers

Teacher data was treated as normally distributed if falling between a skewness of -.55 and .55, as highlighted in the 90% Range for Sample Skewness Coefficient G_1 for n=50 (Doane & Seward, 2011; O'Shea, 2013). The strength of effect size is interpreted using Cohen's (1988) guidelines. School principals were included as teachers for quantitative analysis in both schools.

3.3.1.1 Knowledge and Awareness of Trauma and Its Impact Assessment

Pairwise comparisons for questions 1-4 for within-subjects and between-subjects pre- and post-intervention are presented in Table 9. Mixed between-within subjects ANOVAs yielded statistically significant interactions in all four questions (Question 1 – Wilks' Lambda=.562, $F(1,45)=35.07$, $p< 001$, $n_p^2=.44$; Question 2 – Wilks' Lambda=.696, $F(1,45)=19.64$, $p<.001$, $n_p^2=.30$; Question 3 – Wilks' Lambda=.506, $F(1,44)=42.96$, $p<.001$, $n_p^2=.49$; Question 4 – Wilks' Lambda=.674, $F(1,45)=21.74$, $p<.001$, $n_p^2=.33$). Interaction effects can be observed in Figures 2-5. Pairwise comparisons revealed large pre- to post- effects for the intervention group in all four questions, with scores improving significantly over this time period (Question 1 – M_{diff} =1.19, 95% CI=.91, 1.47, $p<.001$, g=1.95; Question 2 – M_{diff} =1.21, 95% CI=.92, 1.50, $p<.001$, g=1.85; Question 3 – M_{diff} =1.42, 95% CI=1.14, 1.70, $p<.001$, g=2.26; Question 4 – M_{diff} =1.31, 95% CI=.98, 1.64, $p<.001$, g=1.67). There was no effect for the control group in any of the four questions. These findings

show that in all questions on this scale, there were significantly large increases in intervention group scores from pre- to post-intervention, while control group scores did not change significantly.

Table 9

Mean (SD) for KUTIA pre- and post-intervention responses per question by group

Question number	Control group		Intervention group	
	Pre	Post	Pre	Post
1	2.90 (.77)	2.79 (.52)	2.58 (.60)	3.77 (.58)[1,2]
2	2.45 (.79)	2.64 (.57)	2.34 (.77)	3.54 (.47) [1,2]
3	2.18 (.73)	2.17 (.49)	2.10 (.73)	3.51 (.45) [1,2]
4	2.04 (.65)	2.15 (.70)	1.92 (.79)	3.23 (.74) [1,2]

[1]Statistically significantly ($p < .05$) group effect post-intervention

[2]Statistically significantly ($p < .05$) pre-post effect

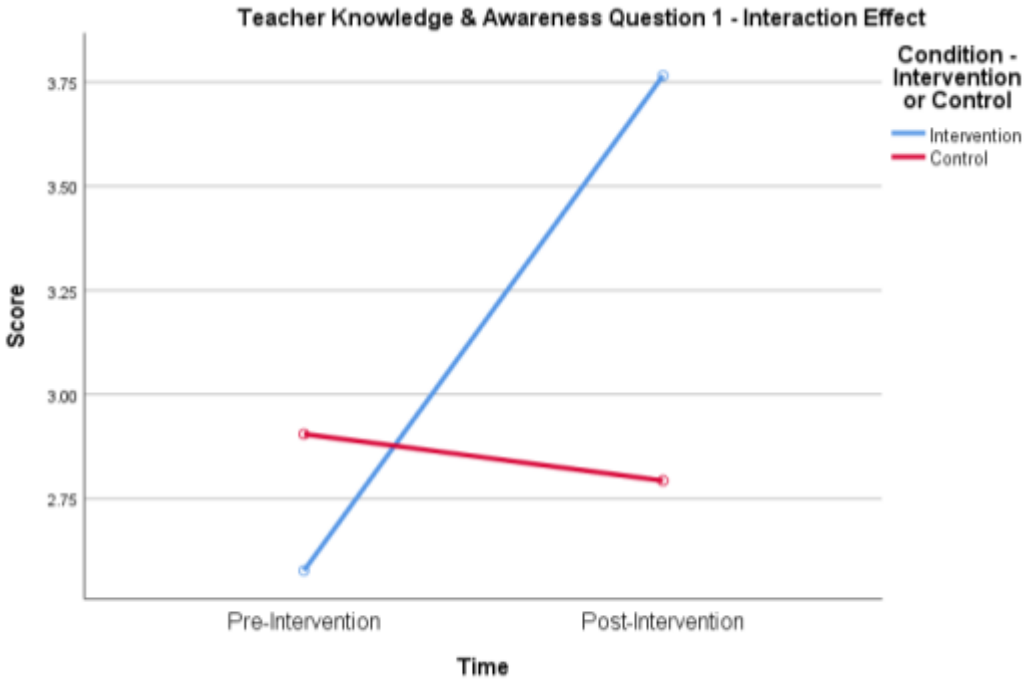

Figure 2. Time*group interaction effect observed in KUTIA Question 1

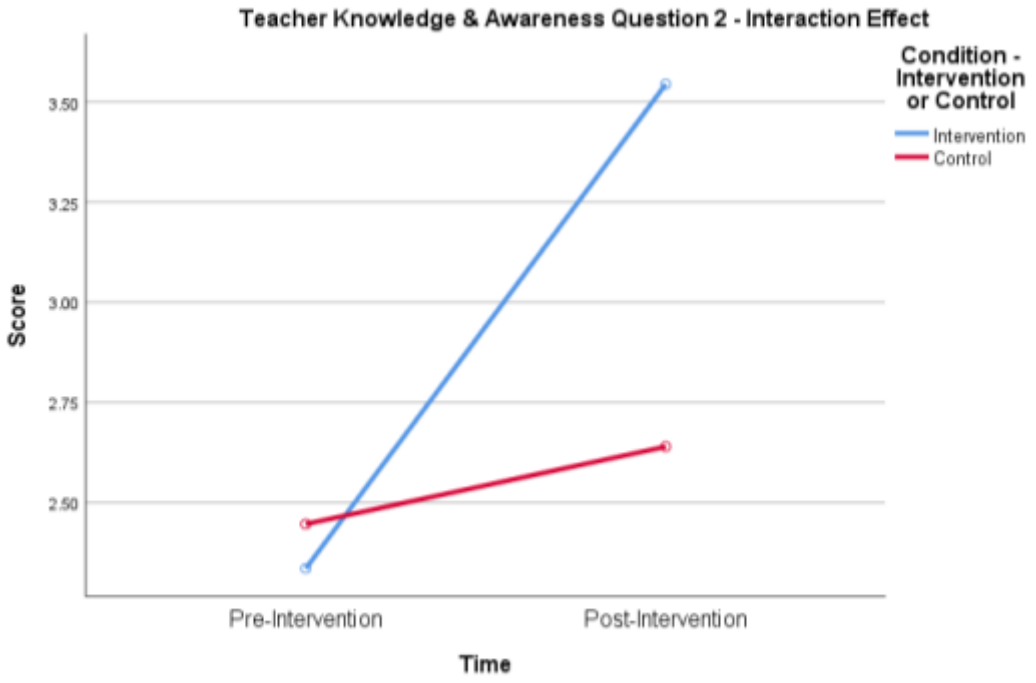

Figure 3. Time*group interaction effect observed in KUTIA Question 2

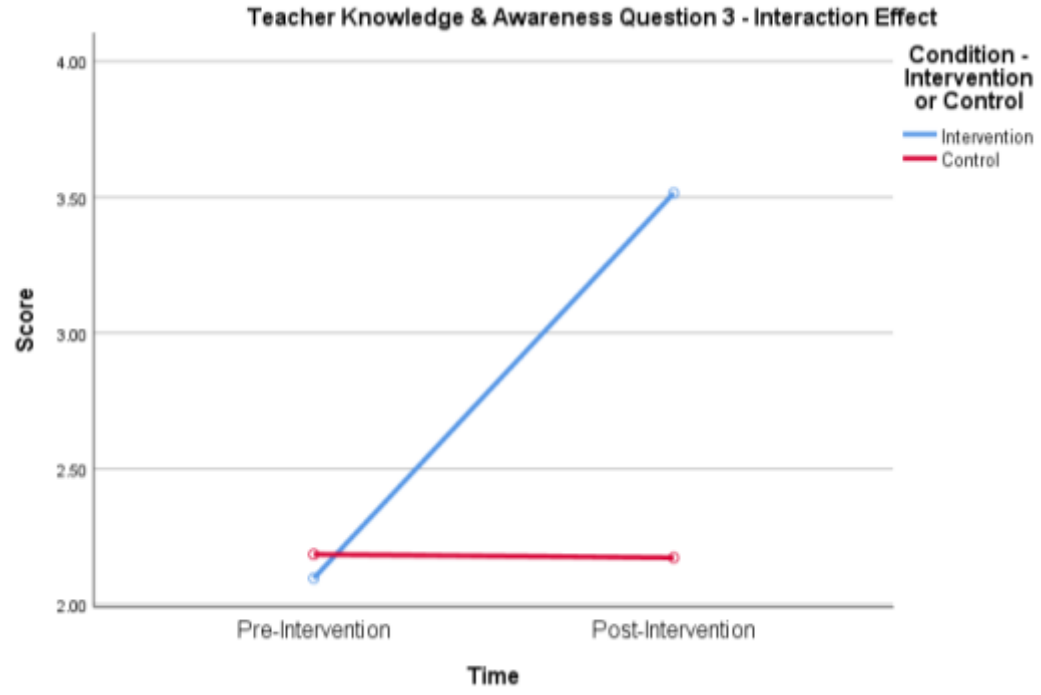

Figure 4. Time*group interaction effect observed in KUTIA Question 3

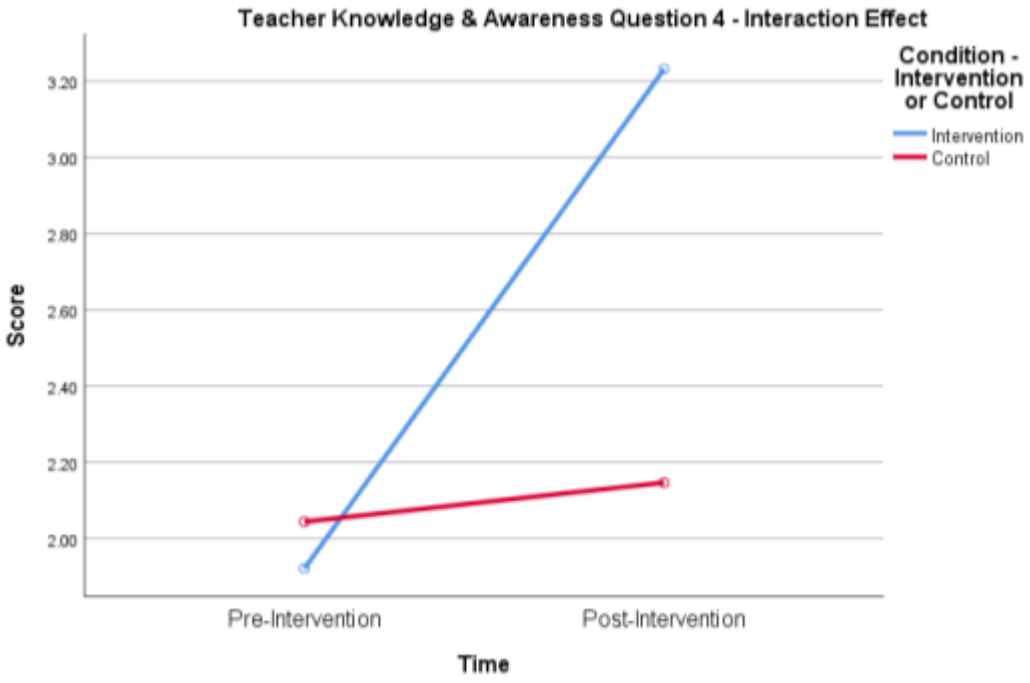

Figure 5. Time*group interaction effect observed in KUTIA Question 4

3.3.1.2 Teaching Traumatized Students Scale

Pairwise comparisons for the TTS for within-subjects and between-subjects pre- and post-intervention are presented in Table 10. A mixed between-within subjects ANOVA yielded a statistically significant interaction (Wilks' Lambda=.563, $F(1,44)=34.20$, $p< 001$, $n_p^2=.44$). The interaction effects can be observed in Figure 6. Pairwise comparisons revealed a large pre- to post- effect for the intervention group, with scores improving significantly over this time period (M_{diff} =.88, 95% CI=.68, 1.08, $p<.001$, $g=1.71$). There was no effect for the control group. These findings show there was a significantly large increase in intervention group scores from pre- to post-intervention, while control group scores did not change significantly.

Table 10

Mean (SD) for TTS pre- and post-intervention responses per question by group

Measure	Control group		Intervention group	
	Pre	Post	Pre	Post
TTS	3.47 (.61)	3.42 (.53)	3.27 (.54)	4.15 (.45)[1,2]

[1]Statistically significantly ($p < .05$) group effect post-intervention

[2]Statistically significantly ($p < .05$) pre-post effect

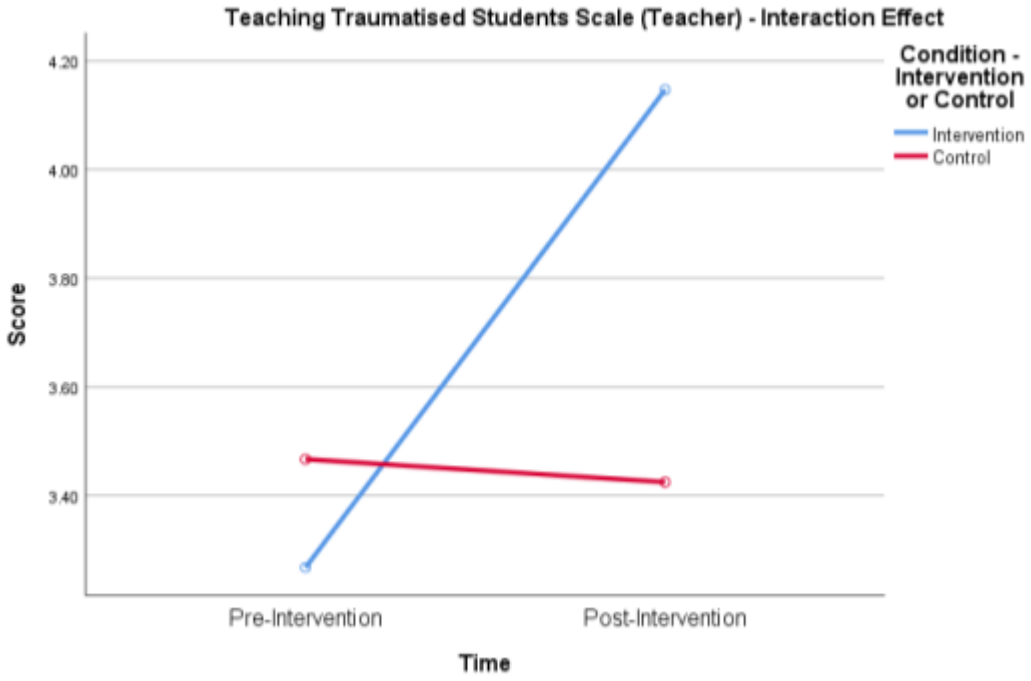

Figure 6. Time*group interaction effect observed in TTS

3.3.1.3 Staff Perception of Role Survey (Teacher)

Pairwise comparisons for the Staff Perception of Role Survey (Teacher) for within-subjects and between-subjects pre- and post-intervention are presented in Table 11. Mixed between-within subjects ANOVAs revealed no interaction effect between group and time or main effect for time in any of the four variables assessed (teachers' perception of their role in responding to the academic, emotional or behavioural needs of students affected by trauma or teachers' perception that it is important for all staff to take an active role in supporting students affected by

trauma). Main effects for groups were found in teachers' perceptions relating to emotional needs ($F(1,44)=5.21$, $p=.027$, $n_p^2=.106$), behavioural needs ($F(1,44)=5.19$, $p=.028$, $n_p^2=.105$), and all staff responsibility ($F(1,44)=6.47$, $p=.015$, $n_p^2=.128$). No main effect for group was found regarding perception of academic needs. Pairwise comparisons revealed no effect for either the intervention or control groups in any of these variables from pre- to post-intervention. These results indicate no significant change was observed with either group from pre- to post-intervention on these variables.

Table 11

Mean (SD) for Staff Perception of Role Survey (Teacher) pre- and post-intervention responses per question by group

Variable	Control group		Intervention group	
	Pre	Post	Pre	Post
Academic Needs	1.98 (.64)	1.89 (.70)	1.87 (.76)	1.82 (.78)
Emotional Needs	1.70 (.48)	1.91 (.50)	1.60 (.61)	1.45 (.46) [1]
Behavioural Needs	1.79 (.44)	1.96 (.57)	1.69 (.66)	1.48 (.47) [1]
All Staff Responsibility	1.71 (.58)	1.80 (.56)	1.43 (.52)	1.42 (.46) [1]

[1]Statistically significantly ($p < .05$) group effect post-intervention

3.3.1.4 Attitudes Related to Trauma-Informed Care-10 Item Scale

As Levene's test for equality of variance was violated when using the transformed data, the original data were used for analysis of this scale. Pairwise comparisons for the ARTIC-10 for within-subjects and between-subjects pre- and post-intervention are presented in Table 12. A mixed between-within subjects ANOVA revealed no interaction effect between group and time, main effect for time or main effect for group. Pairwise comparisons revealed a medium pre- to post-effect for the intervention group, with scores improving significantly over this time

period (M_{diff} =.34, 95% CI=.06, .62, p=.018, g=.51). There was no effect for the control group. These findings show there was a medium-sized, significant increase in intervention group scores from pre- to post-intervention, while control group scores did not change significantly.

Table 12

Mean (SD) for ARTIC-10 pre- and post-intervention responses per question by group

Measure	Control group		Intervention group	
	Pre	Post	Pre	Post
ARTIC-10	5.50 (.74)	5.41 (.75)	5.54 (.61)	5.88 (.69)[1,2]

[1]Statistically significantly ($p < .05$) group effect post-intervention

[2]Statistically significantly ($p < .05$) pre-post effect

3.3.1.5 ARTIC-35 Self-Efficacy Subscale

Pairwise comparisons for this measure for within-subjects and between-subjects pre- and post-intervention are presented in Table 13. A mixed between-within subjects ANOVA yielded a statistically significant interaction (Wilks' Lambda=.891, F(1,44)=5.39, p=.025, n_p^2=.11). The interaction effects can be observed in Figure 7. Pairwise comparisons revealed a medium pre- to post- effect for the intervention group, with scores improving significantly over this time period (M_{diff} =.47, 95% CI=.20, .75, p=.001, g=.64). There was no effect for the control group. These findings show there was a medium-sized increase in intervention group scores from pre- to post-intervention, while control group scores did not change significantly.

Table 13

Mean (SD) for ARTIC-35 Self-Efficacy Subscale pre- and post-intervention responses per question by group

Measure	Control group		Intervention group	
	Pre	Post	Pre	Post
ARTIC-35	5.51 (.81)	5.47 (.78)	5.25 (.78)	5.72 (.65)[1]

[1]Statistically significantly ($p < .05$) pre-post effect

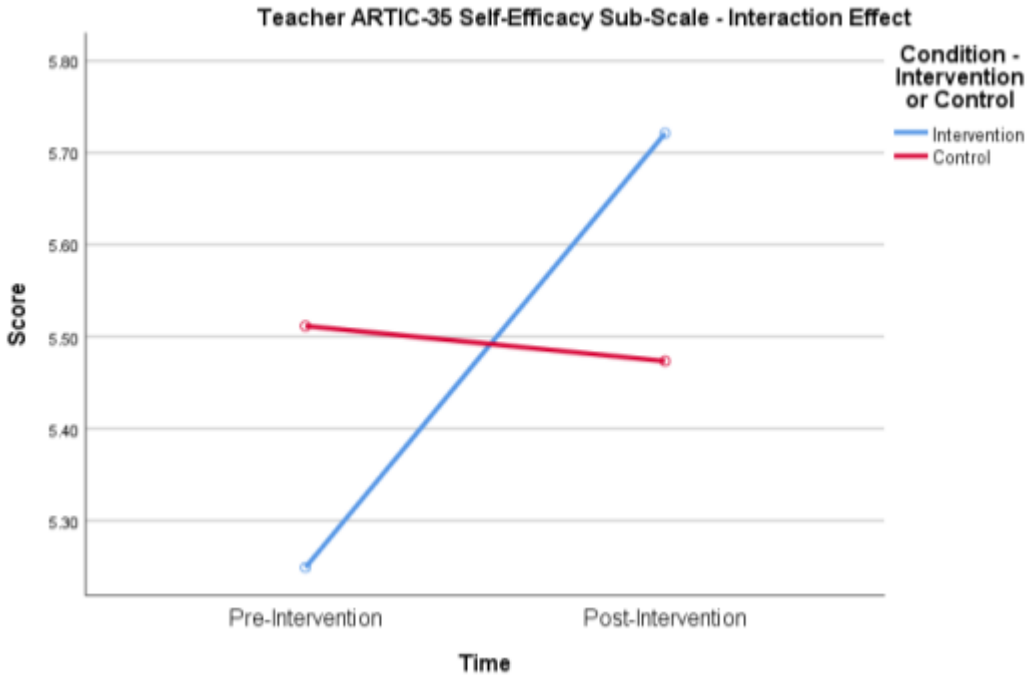

Figure 7. Time*group interaction effect observed in the ARTIC-35 Self-Efficacy Subscale

3.3.1.6 Teachers' Sense of Efficacy Scale

Pairwise comparisons for the TSES for within-subjects and between-subjects pre- and post-intervention are presented in Table 14. Mixed between-within subjects ANOVA yielded a statistically significant interaction in the TSES Overall (Wilks' Lambda=.912, $F(1,43)=4.15$, $p=.048$, $n_p^2=.09$) and the TSES Instructional Strategies (Wilks' Lambda=.915, $F(1,45)=4.17$, $p=.047$, $n_p^2=.09$). Interaction effects can be observed in Figures 8 and 9. No interaction effect between group and time, main

effect for time or main effect for group was found in either TSES Student Engagement or TSES Classroom Management. Pairwise comparisons revealed small pre- to post- effects for the intervention group in the TSES Overall (M_{diff} =.34, 95% CI=.08, .60, p=.013, g=.46), the TSES Instructional Strategies (M_{diff} =.37, 95% CI=.05, .70, p=.026, g=.40) and the TSES Student Engagement (M_{diff} =.39, 95% CI=.02, .77, p=.041, g=.42), with scores improving significantly over this time period. There was no effect for control group scores in these variables or the intervention group scores in the TSES Classroom Management. These results indicate there were small, significant increases in intervention group scores from pre- to post-intervention in the TSES Overall, TSES Instructional strategies and TSES Student Engagement. No significant changes were observed with the intervention group in TSES Classroom Management scores or the control group in any of these variables over the same time period.

Table 14

Mean (SD) for TSES pre- and post-intervention responses per question by group

Measure	Control group		Intervention group	
	Pre	Post	Pre	Post
TSES Overall	6.94 (.76)	6.86 (.77)	6.69 (.74)	7.03 (.68)[1]
TSES Student Engagement	6.65 (.96)	6.70 (.93)	6.25 (.90)	6.65 (.89) [1]
TSES Instructional Strategies	7.36 (.86)	7.22 (.66)	7.22 (1.05)	7.59 (.72) [1]
TSES Classroom Management	6.87 (.76)	6.72 (.84)	6.71 (.80)	6.89 (.93)

[1]Statistically significantly ($p < .05$) pre-post effect

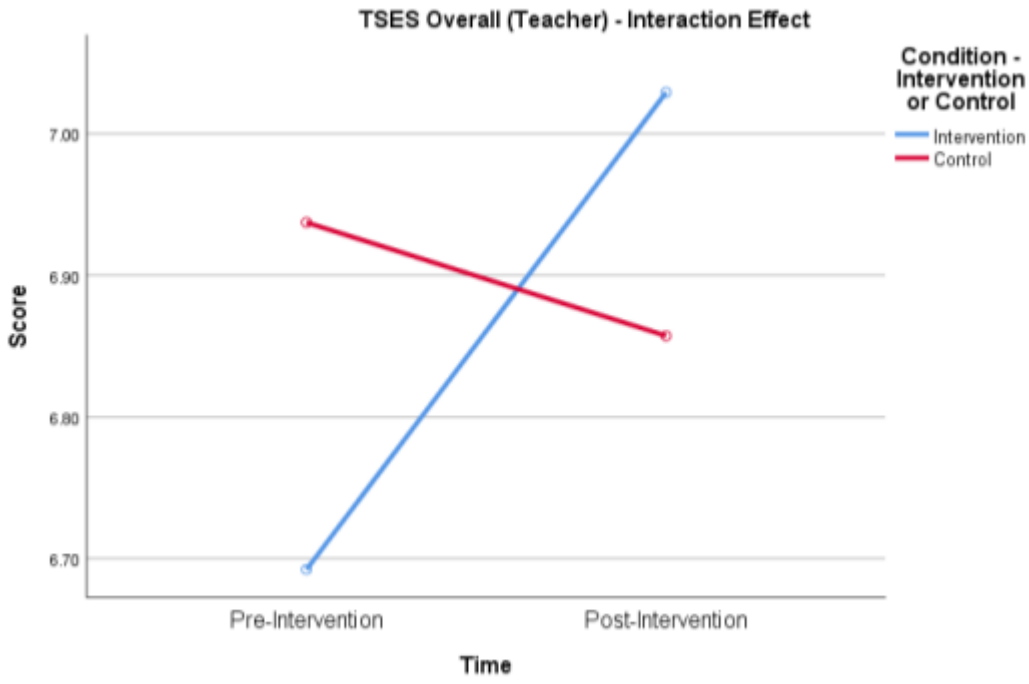

Figure 8. Time*group interaction effect observed in the TSES overall

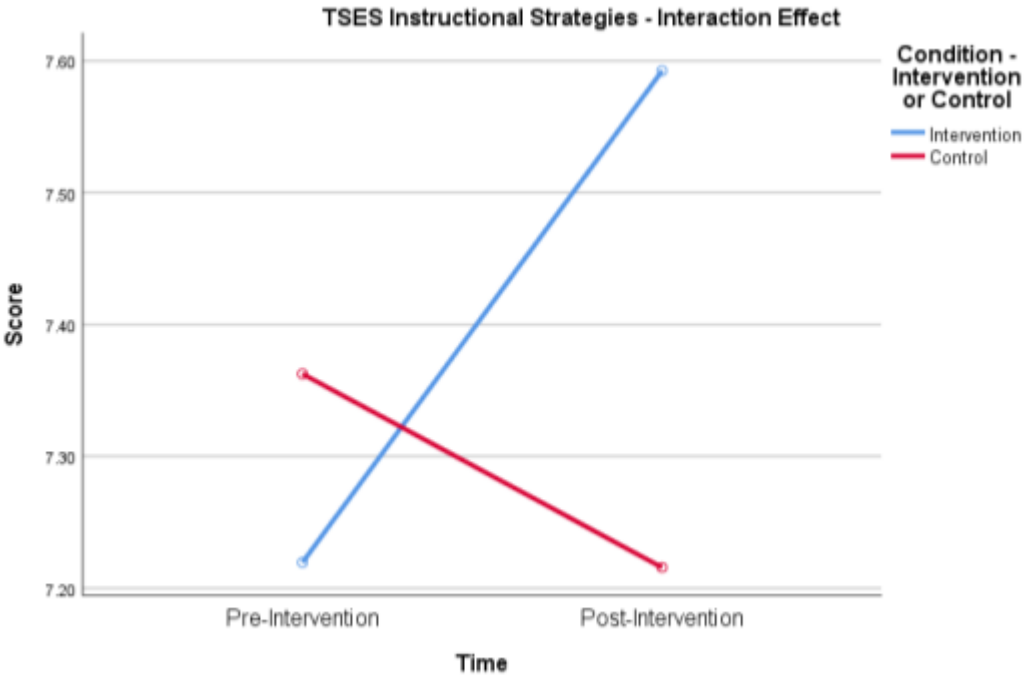

Figure 9. Time*group interaction effect observed in the TSES instructional strategies

No material difference was observed between the analysis run on the original data and the transformed data, with the exception of a small number of variables.

Unlike with the transformed data, no significant differences were observed in intervention group scores from pre- to post-intervention in the TSES Overall score (approaching significance p=.066) and TSES Student Engagement (p=.119). While not significant, increases were still observed in these variables over the time period. Additionally, in the original data, a significant difference was observed between groups at pre-intervention in the variable regarding teachers' perception that it is important for all staff to take an active role in supporting students affected by trauma (p=.041). This difference was not observed with the transformed data (approaching significance p=.095). Finally, converse to the transformed data, no interaction effect was observed with the original data in the TSES Overall score (p=.202) and the TSES Instructional Strategies score (approaching significance p=.052). These findings show that the analysis carried out on the original data verifies the results attained for the intervention and control groups with the transformed data.

3.3.2 Quantitative Results - SNAs

Post-transformation, a number of SNA variables violated the assumptions of normality, as noted in the Shapiro-Wilk test, which resulted in Wilcoxon Signed Ranks Tests being utilised for analysis. For variables that did not violate the assumptions of normality, Paired Samples *T*-Tests were used.

Wilcoxon Signed Rank Tests revealed significant improvements in all four questions of the KUTIA, as observable in Table 15. Similarly, a Paired Samples *T*-Test revealed significant improvements in the TTS (SNA version) from pre- to post-intervention, as observable in Table 16. These findings show that scores in all SNA measures of knowledge and awareness of trauma improved significantly from pre- to post-intervention.

Table 15

Results attained – Questions 1-4 KUTIA (SNAs)

Question Number	Test Undertaken	Results Attained
Question 1	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.699, p = .007* • r = .63 (large effect size) • Median score increased from pre- (*Md* = 2.968) to post-intervention (*Md* = 4.137)
Question 2	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.565, p = .010* • r = .62 (large effect size) • Median score increased from pre- (*Md* = 2.968) to post-intervention (*Md* = 4.065)
Question 3	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.694, p = .007* • r = .63 (large effect size) • Median score increased from pre- (*Md* = 2.968) to post-intervention (*Md* = 4.137)
Question 4	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.565, p = .010* • r = .62 (large effect size) • Median score increased from pre- (*Md* = 2.140) to post-intervention (*Md* = 4.065)

* $p < .05$

Table 16

Results attained – TTS (SNA scale)

Test Undertaken	Results Attained
Paired Samples *T*-Test (Pre- to Post-Intervention)	• Pre- (*M* = 3.491, *SD* = .376); Post- (*M* = 4.325, *SD* = .26) • *t*(6) = 4.839, *p* = .003* (two-tailed) • Mean increase = .834 (95% CI ranging from .412 to 1.255) • Eta squared statistic = .80 (large effect size)

* $p < .05$

A Wilcoxon Signed Rank Test revealed no statistically significant improvement from pre- to post-intervention in SNA SERSAT, as assessed with the ARTIC-35 Self-Efficacy Subscale (*p*=.263). Similarly, a Paired Samples *T*-Test revealed no significant improvement in SNA GSE, as assessed using the TSES (SNA version; *p*=.759). In terms of SNA Attitudes towards Trauma-Informed Care, a Paired Samples *T*-Test revealed no statistically significant improvement from pre- to post-intervention, as assessed using the ARTIC-10 (*p*=.948). These findings show no significant change was found from pre- to post-intervention in these variables.

Wilcoxon Signed Rank Tests revealed significant improvements in SNA perception of their role in responding to the behavioural and emotional needs of students affected by trauma. Analysis can be observed in Table 17. No difference was observed in SNA perception of the importance of all staff taking an active role in responding to trauma (*p*=.317). A transformation was not undertaken with this variable as insufficient cases were present post-transformation to undertake analysis. Therefore, data analysis on the original data set will be presented instead for this variable. These findings show that SNAs viewed themselves as significantly more responsible in responding to the behavioural and emotional needs post-intervention,

compared to pre-intervention, but no change was observed in SNA perception of the importance of all staff taking an active role in responding to trauma

Table 17

Results attained – Staff Perception of Role Survey – Behavioural and emotional needs (SNA scale)

Variable	Test Undertaken	Result Attained
Staff perception of their role in responding to the behavioural needs of students affected by trauma (SNA)	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.701, p = .007* • r = .64 (large effect size) • Median score increased from pre- (*Md* = 1.97) to post-intervention (*Md* = 1.189)
Staff perception of their role in responding to the emotional needs of students affected by trauma (SNA)	Wilcoxon Signed Rank Test (Pre- to Post-Intervention)	• z = -2.694, p = .007* • r = .63 (large effect size) • Median score increased from pre- (*Md* = 1.965) to post-intervention (*Md* = 1.189)

* $p < .05$

Similar to teacher data, no material difference was noted between the analysis on the original and transformed data, with the exception of the difference noted in the transformed data for the SNA perception of their role in terms of the emotional needs of students affected by trauma. In the original data this was approaching significance (p=.083). These findings show that the analysis carried out on the original data verifies the results attained with the transformed data.

3.3.3 Training Evaluation Survey

The 37 participants from the intervention school responded with an average score of 8.08 (*SD*=1.673) to the question 'On a scale of 1-10 how likely are you to implement content from this training with students in your school?', with 1 representing '*Extremely Unlikely'*, 5/6 representing '*Not Sure*' and 10 representing

'*Extremely Likely*'. 10 participants (27%) responded 10 to this question.

The same number of participants from the intervention school responded with an average score of 8.43 (*SD*=1.642) to the question 'On a scale of 1-10 how committed are you to implementing content from this training with students in your school?', with 1 representing '*Not At All Committed*', 5/6 representing '*Not Sure*' and 10 representing '*Extremely Committed*'. 13 participants (35%) responded 10 to this question.

These results indicate that on average at post-intervention, participants viewed themselves as very likely and very committed to implementing content from the training with their students.

3.3.4 Qualitative Results

3.3.4.1 Qualitative Analysis Process

Interview data from teachers and SNAs in the intervention school were analysed separately through inductive thematic analysis, as outlined by Braun and Clarke's (2006) six phase approach (See Figure 9). Thirty five initial codes were generated from teacher data, with 26 generated from SNA data. These were then refined by combining codes if they portrayed a similar idea and by code reduction through subtracting codes if sufficient examples of them did not exist in the data (Saldaña, 2009). Remaining codes were then organised to form overall themes for both teachers and SNAs. The frequency of theme and subtheme recurrence was quantified to enhance the validity of the qualitative findings (Smith et al., 2009). This was achieved through the adoption of the measurement and quantification framework utilised by Daly et al. (2016) and Griffin-O'Brien (2019), as observable in Table 18.

Table 18

Quantification equivalences utilised in qualitative write up (Sourced from Daly et al., 2016 and Griffin-O'Brien, 2019)

Descriptor	Frequency of Occurrence Among Participants
A Few	Up to 20%
Some	40%
Half	50%
A Majority	60%
Almost All	80%
All	100%

Four identical overarching themes were identified for both teachers and SNAs, with each theme containing a number of subthemes. Interview data from the NEPS psychologist and the school principal also aligned with the four identified themes. A number of unique points were raised by these professionals due to their distinct roles. These are highlighted throughout the analysis. While the four overarching themes were identical for all participants, data analysis of each cohort separately resulted in similarities and differences emerging in subthemes. These can be observed in Figure 11, with subthemes colour-coded to illustrate differences among cohorts. Thematic maps presenting themes and subthemes for teachers and SNAs can be observed in Appendix 15 and 16 respectively.

Figure 10. Braun and Clarke's (2006) six phase approach to thematic analysis

3.3.4.2 Theme 1: Improvements as a Result of Training

Theme 1 presents data on improvements reported by participants as a result of the training intervention. While the majority of participants noted some level of positive attitude and knowledge prior to training, all noted improvements as a result of the intervention across a wide range of variables. All participants reported improvements in their knowledge and awareness of trauma, including recognising signs of trauma and addressing the needs of students affected by trauma. This was noted by the principal who stated, "the big thing to realise is that if children are experiencing any of these emotions or difficulties with emotions they're not in a position to learn" and was echoed by other participants, with one SNA stating: "It's not an area I would have researched or even read up on. I never even heard of it until your class".

Improved attitudes and knowledge towards trauma-sensitive practices and their importance were also noted by all participants. All felt the training was valuable and

beneficial and felt they could relate content to their role as noted by the principal: “you’re more aware and even the terminology that’s used...you can use it if you’re dealing with agencies or if you’re trying to verbalise where the child is coming from or even to explain to parents”. This was mirrored by the psychologist who intended to implement the content in her own role, intended to recommend schools to undertake the training and felt “all DEIS schools should have trauma-sensitive training”. Almost all participants noted increased awareness of how to respond appropriately to support students affected by trauma and increased commitment to doing so. One teacher explained: “We need to deal with them when they first arise rather than waiting for the fall out down the line in later years because all sorts of mental health issues can develop”.

All staff felt more knowledgeable in terms of how children affected by trauma may respond to trauma. Similarly, half of the teachers interviewed noted increased awareness of how this may be misinterpreted, such as the child being misdiagnosed or labelled as ‘bold’. This was echoed by a teacher’s assertion: “It was good for us to learn about how individual responses to different traumas can be so different...made me realise not to assume that a small trauma is only going to cause a small reaction”.

Further improvements were noted by all participants in their awareness of the impact of a child’s background and home life, with the majority of participants also noting improvements in their ability to see behaviour as communicating a function. The majority of participants also reported increased confidence in supporting all students irrespective of trauma. This was illustrated by an SNA who stated: “When you look at a child to be aware of where they’re coming from, their background, their experiences and what they’re bringing into the classroom because it’s not always them behaving badly”.

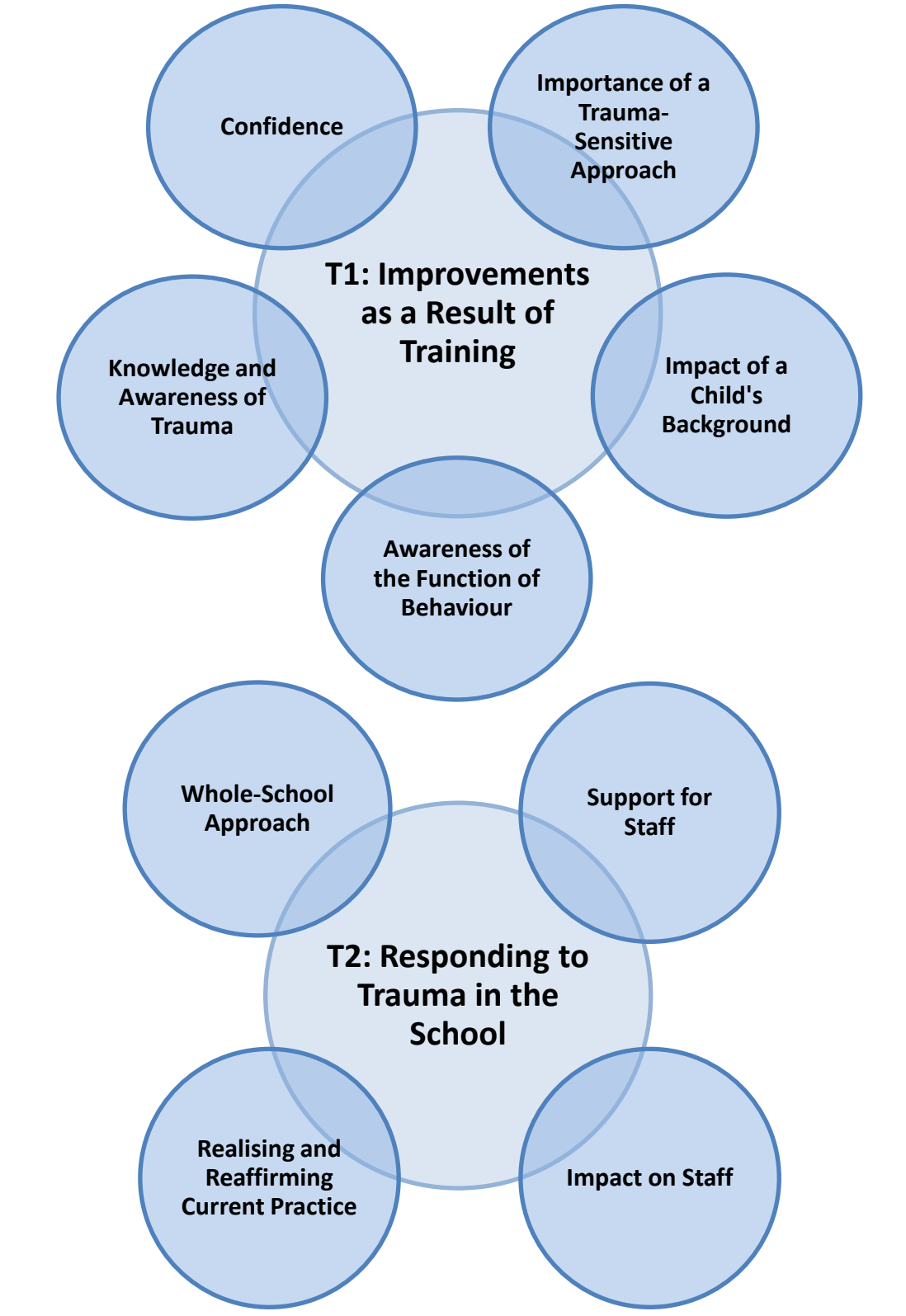
Confidence
Importance of a Trauma-Sensitive Approach
T1: Improvements as a Result of Training
Knowledge and Awareness of Trauma
Impact of a Child's Background
Awareness of the Function of Behaviour
Whole-School Approach
Support for Staff
T2: Responding to Trauma in the School
Realising and Reaffirming Current Practice
Impact on Staff
- All participants
- School Principal
- Teachers
- Principal and NEPS Psychologist
- Teachers and SNAs
- Principal and Teachers
- NEPS Psychologist
- SNAs, Principal and NEPS Psychologist

Figure 11. Thematic map from analysis of interview data across teachers, SNAs, principal and NEPS psychologist

3.3.4.3 Theme 2: Responding to Trauma in the School

Theme 2 presents data on participants' views on responding to trauma within the school. All participants felt staff require personal support when responding to trauma as it can prove challenging and have negative impacts on staff. One SNA explained "It can get heavy and you can take it home and you don't always realise you're taking it home" and the NEPS psychologist highlighted "Particularly in DEIS schools...it can become kind of compassion fatigue". Within-school support was highlighted as the most suitable place to source support by all participants, with some recommending accessing external support from counselling services and outside children's agencies if deemed necessary by the person affected. The NEPS psychologist highlighted the importance of this support and described potential supportive structures for schools stating: "The whole analogy of the cabin crew being on a plane as the air pressure is falling and oxygenating themselves first...We do have the adult resilience bit of the Friends programme that's something as well that we could implement".

This focus on supports links well with the subtheme of a whole-school approach, as all participants believed a whole-school, team approach is essential. This was explained by one teacher: "I realise it's much more of a collective, it's a collective issue, a collective responsibility".

Half of participants realised the extent of the support being provided to students prior to training and felt affirmation for the value of these endeavours. This included the implementation of numerous supportive strategies, openness to learning and positive attitudes towards a range of areas, such as trauma-sensitive practices and the importance of support for staff. This was explained by the principal: "A lot

of our staff are coming from a background of having done Incredible Years, having done Friends for Life, so we were already on that road".

3.3.4.4 Theme 3: Professional Role

Theme 3 describes participants' views of their role in supporting students affected by trauma. All participants felt it was crucial for teachers and SNAs to build trusting relationships with the children so they may confide and form attachment relationships with them, especially as no other adult may do this in the child's life. One teacher explained: "They need someone who they can trust, who they can feel safe with, who they can feel confident with sharing stuff". All participants also believed the role of teacher and SNA entails supporting and advocating for the child, for example creating safe environments and teaching important areas other than academics, as well as being vigilant for signs of trauma and traumatic triggers. A few teachers felt they had a professional responsibility to develop their skills to fulfil the role of responding to trauma in school, with this mirrored by the principal through the acknowledgement that responding to trauma is within their remit: "I suppose even the fact that there's a kind of umbrella over the whole lot is reassuring that this is life and this is part of school life and it has to be addressed sometimes". The principal felt her role entailed acting as "the first port of call for both parents and for teachers who are concerned about something", as well as supporting staff to put interventions and strategies in place. The psychologist explained it is important for her to bring a psychological lens and to support staff in responding to childhood trauma and felt it may be best for a specialist role to be developed within NEPS to support trauma-sensitive practices which could be linked to the current NEPS working group on Nurture Groups. Interestingly, almost all SNAs, as well as the principal and psychologist, felt the role of the SNA permitted them to perceive more

than other staff members. This was explained by one SNA: “Maybe as an SNA you see things the teachers don’t. You’re around the classroom more and you’re with that child more one on one”.

The limits and boundaries of the role of teachers and SNAs were identified by all participants, with a few reporting improvements in their understanding of this area as a result of the training. While staff members were aware of the expectation to support students affected by trauma, all were cognisant of the need to refer on to the principal or external agencies. This was explained by the principal: “I’d often say to staff we can’t change the world. We can only do what we can do in school and try to be the one good adult”. The principal voiced frustration with referrals to external agencies however, and explained that as students could be waiting for over two years for appointments with these services, the school were forced to pay for private therapies, such as play therapy, out of their limited budget. This frustration was mirrored by a few teachers who felt the limit of their role was often blurred as they had to try and assume the role of other professionals at times, such as psychologists, to help these students without appropriate training.

3.3.4.5 Theme 4: Barriers

Almost all participants identified barriers which they felt were impeding on the school’s ability to successfully respond to students affected by trauma. Half of teachers and SNAs reported either a lack of self-confidence in responding to trauma or concerns regarding child protection and confidentiality, in terms of being informed of trauma or informing other staff. Some teachers and SNAs, as well as the principal and psychologist, also highlighted school-related challenges as barriers. These included initiative overload, different family and cultural dynamics, a lack of

space and time, and "not knowing whether it is actually trauma or whether it's behaviour". Half of teachers and SNAs felt they would benefit from additional resources, strategies, and time for discussions among staff to support them in responding to trauma. A few of the teachers highlighted a lack of experience as a contributing factor to low confidence in responding, as explained by one teacher: "I am slightly confident, I suppose because I'm only new out and I wouldn't have seen anything like this". Interestingly, gaining experience in the area was noted by a few teachers and SNAs as improving this confidence. This suggests the potential impact experience may have on participants' perceived ability to respond.

Potential barriers were also noted by the principal and psychologist, with the majority of these concerning the training programme. These included the delivery of the training during Croke Park hours (DES, 2011, 2016b), the speed at which the training was delivered, and the lack of linkage to the Irish context and NEPS supports currently utilised in schools. The psychologist also felt that if trauma-sensitive practices are to be implemented successfully, they need to be prioritised, both by herself and by school staff, through means such as incorporation into behaviour support plans, school support plans, critical incident policies and school self-evaluation.

3.4 Discussion

The aim of the current study was to add to the literature base in trauma-informed approaches in educational settings and to assess the impact of Modules 1 and 2 of the TSSTP on a range of education staff variables. These included knowledge and awareness of trauma and its impact, GSE, SERSAT, attitudes towards trauma-sensitive practices, and staff perception of their role in responding to the needs of students affected by trauma.

In line with initial hypotheses, significant improvements were observed with teachers and SNAs in the intervention group from pre- to post-intervention. These included all quantitative measures of knowledge and awareness of trauma and its impact, with these findings echoed in the qualitative data. Participants reported higher levels of knowledge and understanding and all also highlighted newly developed insights into the impact of children's life circumstances and the realisation that behaviour has a function. Both the NCTSN (2010, 2014) and van der Kolk (2014) highlight this understanding as vital as it enables educators to be aware of and respond appropriately to traumatic triggers and trauma reactions in their students, rather than misinterpreting these behaviours and reacting in a way that can escalate or re-traumatise the child. Improvements were also noted in the SERSAT scores and the attitudes towards trauma-sensitive practices scores of teachers in the intervention group. Similar to knowledge and awareness, quantitative findings were mirrored in the qualitative data with the all participants noting improvements. No changes in these variables were observed with the control group over the same time period, which suggests the intervention may have been responsible for the outcomes attained. Additionally, while the intervention and control group were matched pre-intervention, a significant difference was observed at post-intervention. This

substantially reinforces the potential role of the intervention in producing the observed findings (Hanita et al., 2017). These results align with previous research highlighting growth in participant knowledge and awareness of trauma in educational settings as a result of trauma-sensitive professional development interventions, both subjective teacher accounts and quantitative investigations (Anderson et al., 2015; Dorado et al., 2016; McIntyre et al., 2019; Perry & Daniels, 2016). Current results also correspond to previous studies outlining improvements in education staffs' attitudes and self-efficacy towards specific interventions as a result of professional development (Carroll et al., 2003; Foglemam et al., 2011). The importance of these improvements cannot be overstated, particularly as enhancements in these variables are associated with direct positive implications for educational practices, increased staff commitment, more successful implementation of interventions, and the development of more inclusive school communities (Cullen et al., 2010; Keys & Bryan, 2000; Resnick & Zurawsky, 2005). The current study improves on prior research exploring these variables through the adoption of an experimental design employing a control group and the amalgamation of both quantitative and qualitative approaches.

Contrary to initially theorised, improvements were not observed from pre- to post-intervention in SNA attitudes towards trauma-sensitive practices and SERSAT. Several potential explanations exist for these results including the possible lack of sufficient power to detect an effect due to small SNA sample size and utilising non-parametric analysis in assessing the impact of the intervention on the self-efficacy variable (Faber, & Fonseca, 2014; John, van Lishout, Gusareva, & van Steen, 2013). Additionally, high scores provided by SNAs in these variables pre-intervention may have represented legitimately high levels of self-efficacy and attitudes, which would

explain a lack of improvement, or may represent an initial overestimation of these scores. If this occurred, the lack of improvement post-intervention may be explained by SNAs realising the level of content they have not yet mastered, consistent with the Dunning-Kruger effect (Kruger & Dunning, 1999).

Improvements were also noted in staff perceptions of their roles in responding to students affected by trauma, although these were not consistent across teachers and SNAs. SNAs viewed themselves as significantly more responsible in responding to the emotional and behavioural needs of students post-intervention compared to pre-intervention. Increased insight into trauma triggers, reactions and the function of behaviour, as well as the crucial role of relationships, noted in the qualitative results may be responsible for this improvement, with SNAs more aware of the impact and power of their roles (COTDC, 2015, 2019; NCTSN, 2010, 2014). No differences were noted from pre- to post-intervention with teachers in the intervention group. The absence of improvement in these teacher variables and the remaining SNA variables relating to perception of role may be explained by factors including participants viewing responding to the needs of traumatised students as a key facet of their roles prior to the intervention. This is reflected in both the quantitative and qualitative results at pre-intervention. Almost all participants responded ‘agree’ or ‘strongly agree’ to quantitative items assessing their perception of their responsibility in responding to the various needs of traumatised students and the principal stated she felt staff were “already on that road” in terms of responding to students affected by trauma. Several participant beliefs related to staff roles not represented in the quantitative data were noted in qualitative findings. These included the training resulting in improved awareness of the limits of roles and the resolution of role ambiguity when supporting students affected by trauma. Both of these areas have

been noted as substantial challenges for education staff in previous research (Alisic, 2012). Further points raised included frustration with professional services. Staff felt pressured to respond to the needs of traumatised students without appropriate training as access to these services was noted to take up to two years (Barnardos, 2018). This aligns with previous research and may have contributed to the uncertainty staff felt pre-intervention regarding their role limits, as highlighted in the qualitative data (Alisic, 2012; Alisic et al., 2012).

Similar to improvements in perception of staff role, improvements in GSE were not consistent across both teachers and SNAs. Enhancements in teacher overall GSE and GSE in terms of instructional strategies and student engagement were noted from pre- to post-intervention, with no change observed in control group scores. A number of potential explanations exist for this growth. These include teachers generalising the approaches presented in the package to other students in their care and participants being exposed to influential information which improves their self-efficacy, such as the authors of the package highlighting strategies provided are effective with all students irrespective of trauma (Guarino & Chagnon, 2018; Wilde & Hsu, 2019). Furthermore, inexperienced teachers' GSE may have improved as due to their lack of teaching experience, this may not yet be a stable construct and may therefore have been malleable to improvement when provided with information from influential sources (Chen, Gully, & Eden, 2004; Wilde & Hsu, 2019). The failure of the training to focus explicitly on classroom management may have resulted in the lack of improvement noted in this self-efficacy variable as participants may not have gained access to necessary information required to derive specific self-efficacy (Bandura, 1986; Gibbs, 2009). This may also explain the absence of improvement in

SNA GSE, with three of the six questions in the amended SNA TSES scale reflecting self-efficacy in terms of classroom management.

Current findings also highlight the importance of staff receiving support when responding to trauma. Although this was an unexpected finding, it arose strongly in qualitative findings from all shareholders and links well with previous research highlighting the negative impact of secondary traumatic stress and vicarious trauma on the professional and personal lives of staff supporting traumatised students (Hydon et al., 2015; NCTSN, 2011). Notably, all participants cited receiving this support in-school from their peers as their preference. This corresponds to best practice guidelines suggesting staff support for educators may be delivered most practically and most effectively in a within-school context (Boccellari and Wiggall, 2017; Hydon et al., 2015). At present however, this occurs only informally, with no formal procedure required of schools. The lack of a formal supportive structure in primary schools is in direct comparison to recent advancements in early childhood education in Ireland, in which service managers are now required to provide regular support and supervision to staff and to have an active policy in this regard (Longford County Childcare Committee, 2016; Government of Ireland, 2016). As highlighted in the qualitative data, a potential solution may be the provision of a supervision structure by NEPS psychologists to school staff. This could entail NEPS delivering formal, established peer supervision training devised for education staff, such as the 'Supervision for staff working in schools and community contexts: Working relationally and reflectively' course run by the Tavistock and Portman NHS Foundation Trust (2020). Alternatively, it is possible that NEPS may develop their own 'bespoke' peer supervision training programme for supervision among school staff, with the development of this 'bespoke' training aligning with the British

Psychological Society Core Competencies of Educational Psychologists (British Psychological Society, 2019). This would enable peer supervision to be undertaken in schools akin to the supervision process in clinical settings in which senior professionals provide supervision to less experienced staff members, with NEPS psychologists offering a supplementary advisory and supportive role if external support is required (Tai et al., 2016). The importance of NEPS psychologists engaging in this support and development work is highlighted in a range of professional documents guiding educational psychologists (British Psychological Society, 2019; DES, 2018b), with the recent Wellbeing Policy Statement and Framework for Practice 2018-2023 also highlighting the importance of school staff receiving wellbeing support to build their resilience and ability to cope with challenges in school (DES, 2019a). This would also align well with recommendations from Alisic (2012), who suggests school psychologists should provide advice and training to education staff in coping with responding to trauma and secondary traumatic stress.

A further unexpected, but hugely valuable finding not represented in the quantitative data is the barriers to programme implementation outlined by staff. While many of these are expected concerns, the topic of school-related challenges and need for further resources and support in implementing content represents a considerable obstacle. These findings highlight the need for strong leadership, whereby previous Irish research highlights change occurs most effectively in schools when school leaders are supportive and leadership is evident at all stages of the project (NCCA, 2009). School leaders need to invest both resources and time to support implementation through the provision of space for dialogue, the creation of a culture that supports development, and the introduction of training follow-up and

evaluation of content implementation (Archibald et al., 2011; Fox, 2006; Pedder & Opfer, 2010). Moreover, school leaders need to support staff to ensure that an ideological shift occurs within the school in responding to trauma in lieu of staff viewing the training merely as an additional intervention (NCCA, 2009; Guarino & Chagnon, 2018). Staff realisation and endorsement of this ideological shift is paramount, as it represents a change in the deep structures of the school environment essential in the success of genuine reform (Kinsella & Senior, 2008; McDonnell, 2003). Crucially, it also symbolises a vital step in ensuring that the school culture aligns with the espoused values of the TSSTP (Guarino & Chagnon, 2018; Schein, 1992). This is in direct contrast to surface level reform, in which the underlying attitudes and culture are unchallenged and the TSSTP is utilised as solely an intervention in a narrow and parochial fashion (McDonnell, 2003; Schein, 1992).

To allow the barriers to content implementation to be overcome and promote effective implementation, it is crucial that a systems level approach is employed which aligns with frameworks currently informing the context of Irish education. This is particularly important as a lack of linkage with the Irish context and current NEPS supports in schools was identified as a barrier by both the NEPS psychologist and the school principal in the current study. Achieving this alignment may be best achieved through collaborating with NEPS and engaging this service in systemically supporting the implementation of content across schools. While this would require NEPS to embrace the TSSTP as one of their core training initiatives, a training package of this kind may be warranted at present as it is highly probable that higher levels of trauma will exist within schools following the global Covid-19 pandemic, such that school-wide awareness, sensitivity and response in this regard will be required (Duan & Zhu, 2020; NCTSN, 2020). Embracing the TSSTP would also

reflect a number of key NEPS roles including providing psychological advice and training to support schools in responding to pupil difficulty and engaging in preventative work in schools (Cameron, 2007; Vivash & Morgan, 2019). This may be possible through a number of avenues. These include the uptake of the TSSTP by all NEPS psychologists, similar to the Incredible Years and Friends for Life programmes at present, or the creation of a specialist role within NEPS to support trauma-sensitive practices, as recommended by the NEPS psychologist in the current study, with external specialists identified as crucial agents in the process of change in Irish schools (NCCA, 2009). Implementation of the TSSTP content should also reflect the NEPS Continuum of Support (DES, 2010). As the TSSTP aims for an ideological shift to occur, and has been noted as beneficial for all pupils regardless of exposure to trauma, it may be best for content to be visible at the first, universal stage of the continuum (DES, 2010; Guarino & Chagnon, 2018). This is crucial as it will ensure that a trauma-sensitive lens is in place for all students and will allow additional specific, intensive interventions to continue to be implemented for students when required in line with the Continuum of Support Guidelines (DES, 2010; Dorado et al., 2016; Guarino & Chagnon, 2018). Implementing content at this level of the continuum will also allow early intervention to occur, which is highlighted as "the most efficient and cost effective means of promoting health and wellbeing" in Ireland (PEIN, 2019, p.4), and will enable educational psychologists to fulfil their vital role of conducting preventative work (Cameron, 2007; Vivash & Morgan, 2019).

Similar to aligning with NEPS, the recent focus on well-being in schools and the requirement for schools to utilise the school self-evaluation process to review their current promotion of well-being and generate a plan for future well-being

development before 2023 may prove the most beneficial route through which training may be undertaken (DES, 2019a). Implementing the TSSTP through this means would not only align with the recommendation provided by the NEPS psychologist in the current study, but would also allow sufficient time and resources to be dedicated to implementation and would allow the school to fulfil their mandated self-evaluation requirement in the area of well-being. For this to occur effectively however, contextual difficulties faced by school staff which may impede the successful implementation of content must be acknowledged and addressed. These include the 'initiative overload' felt by school staff, noted in the qualitative findings of the current study, and the need for training to come about in a bottom-up manner to establish staff buy-in and increase effectiveness (Association of Secondary Teachers Ireland, 2019; Guarino & Chagnon, 2018; NCCA, 2009). Similarly, one must be cautious regarding a self-fulfilling prophecy occurring when school staff are educated regarding the negative impacts of trauma. It may therefore be advisable for an initial generic well-being initiative to be delivered to schools as part of their self-evaluation process in which trauma is discussed and the TSSTP is explained, with the TSSTP subsequently delivered when requested by school staff. As outlined previously, this may be best achieved through collaboration with NEPS, and may be particularly necessary at present given the global Covid-19 pandemic and higher levels of predicted residual trauma among school populations (Duan & Zhu, 2020; NCTSN, 2020). While developing an initial process to implement the TSSTP which aligns with the current Irish educational context and allows barriers identified to be overcome may be challenging, its importance cannot be overstated. If not achieved, this not only has the potential to reduce the effectiveness of the implementation and uptake of the TSSTP, but has the potential to cause

implementation to fail altogether (Chambless & Hollon, 1998; Komro et al., 2016; NCCA, 2009; Public Health England, 2018).

It is important to note that a number of limitations exist with the current study. The first of these is the use of self-report measures in the quantitative element of the study, which is compounded by the lack of behavioural data. The researcher assuming the role of 'insider researcher' may also represent a limitation, as the same individual delivered and evaluated the intervention (Dublin City University, 2017; Fleming, 2018). While these limitations may have caused social desirability to occur, strategies to mitigate against this were implemented including anonymising participant data and assuring anonymity and confidentiality during interviews (Kita, 2017; Larson & Bradshaw, 2017; Podgoršek & Lipovec, 2017; Thielmann, Heck, & Hilbig, 2016). Similarly, results from self-report measures may have been influenced by the Dunning-Kruger effect (Kruger & Dunning, 1999). Additional limitations identified include the lack of longitudinal data to evaluate if effects lasted over time or if content from the intervention were implemented, the absence of staff variables which may have impacted on perceived competence, regression to the mean, and the delivery of the intervention under time constraints in a Croke Park setting directly after school (Alisic et al., 2012; DES, 2011, 2016b; Yu & Chen, 2015). Small SNA sample size, lack of SNA control group, and inability to ascertain reliability and validity for the amended SNA scales due to insufficient participants also represent limitations.

Importantly, several strengths are also present. The current study is the first internationally to evaluate the efficacy of the TSSTP and to utilise a control group and mixed-methods design when evaluating the impact of a trauma-sensitive schools professional development intervention in an educational setting. The data analysis

undertaken also presents as a strength as the impact of the intervention and social validity were assessed through both qualitative and quantitative means, and quantitative analysis was performed on transformed data and verified using original data (Cresswell & Plano Clark, 2011; Ware, Ferron, & Miller, 2013). The inclusion of the whole-school staff and leadership team of a DEIS primary school as intervention participants also represents a substantial strength. The value of these inclusions cannot be overlooked as trauma-sensitive professional development interventions in educational contexts are suggested as most effective when undertaken in a whole-organisation approach, when influential system leaders are involved, and when trauma-sensitive concepts are already in place to some extent (Brown et al., 2012). Additionally, all staff are required to receive training for a school to become trauma-sensitive and leadership buy-in is noted as crucial in effective implementation (Guarino & Chagnon, 2018; NCCA, 2009).

On consideration of the strengths, limitations and findings of the current study, further research is recommended. This research should utilise a larger, more diverse sample to evaluate the impact on staff working in other DEIS and non-DEIS settings and explore the impact of potentially important staff variables, such as level of experience and previous training. It is also recommended that a quantitative social desirability measure, further strategies to reduce social desirability bias, observations of teacher behaviours, and child outcomes are used (Alisic et al., 2012; Bergen & Labonté, 2020; van de Mortel, 2008). Additionally, it is advised that a longitudinal approach is utilised and that content implementation is evaluated in order to ascertain if participants effectively transfer content to their professional practice (Crable et al., 2013). Future research to replicate the current findings is also crucial. As the TSSTP is unevaluated prior to the current study, it can only be defined as ‘possibly

efficacious' in light of the current positive results, with future replication research necessary to allow this intervention to be confidently categorised as 'efficacious' (Chambless & Hollon, 1998).

Despite the limitations outlined, the current study presents a valuable insight into the efficacy of Modules 1 and 2 of the TSSTP in improving a range of crucial implementation-related variables among staff working in educational settings. Barriers to successful implementation of training and the need to align with current Irish educational frameworks and policy were also identified, with potential solutions provided. Current results present encouraging finding which suggest the TSSTP is an effective programme which staff are committed and motivated to put in place. As the current study is the first to evaluate the TSSTP, the positive findings attained enable the TSSTP to be defined as a 'possibly efficacious' intervention (Chambless & Hollon, 1998). This suggests that while the current study provides invaluable support for the TSSTP, further research is required to classify this intervention as 'efficacious' and allow full confidence to be exuded in recommending it for use in all Irish schools (Chambless & Hollon, 1998; Komro et al., 2016; Public Health England, 2019).

Chapter Four

Critical Appraisal and Impact Statement

4.1 Critical Appraisal

4.1.1 Introduction

Part three of this thesis entails a critical reflection of the current study. In this section, strengths and limitations are explored and the epistemological positions within which the project is situated are outlined. Ethical dilemmas encountered, implications of the research in terms of knowledge of the topic, professional practice and future research, and a personal reflection on undertaking the study are also provided. The final component of this section entails an Impact Statement outlining the manner through which the expertise, knowledge, analysis and insight presented in the current project may be beneficial both inside and outside of academia.

4.1.2 Epistemological Perspective

Epistemology denotes an area of philosophy concerned with describing "how we come to know things or believe them to be true" (Barker et al., 2016, p.10). Social research is informed by the epistemological beliefs of the researcher, with the theoretical perspective, methodology and methods of a study aligning with these views (Crotty, 1998).

Multiple worldviews should be employed in mixed-methods studies, with the paradigm used linked directly to the type of mixed-method approach undertaken (Cresswell & Plano Clark, 2011). In a sequential explanatory mixed-methods approach, two complimentary approaches are used, as the researcher initially implements a quantitative phase and subsequently follows up qualitatively to explore and explain the initial results in greater depth (Cresswell, Plano Clark, Gutmann, & Hanson, 2003; Morgan, 1998). This is observable in the current study as the initial

quantitative phase fell within the perspectives of postpositivism, while the second, qualitative phase aligned with the assumptions of constructivism (Cresswell & Plano Clark, 2011; Mertens, 2015; Taylor, 2018).

Postpositivists argue that while one reality exists, it can only be discovered within a certain realm of probability (Cresswell & Plano Clark, 2011). What is undertaken instead is the development of empirical evidence to support a reality or theory through disconfirming alternate explanations or hypotheses (Mertens, 2015; Reichardt & Rallis, 1994). Although the researcher may bring their own theories and background knowledge to the research, they are viewed as objective and must strive to remain neutral and prevent these preconceptions from swaying their work (Cresswell & Plano Clark, 2011; Mertens, 2015). Quantitative methodologies are utilised predominantly within this approach, as they align with determinist thinking in which variables are measured or observed with the view to testing or refining theory (Cresswell & Plano Clark, 2011; Slife & Williams, 1995). All three of these aspects were present in the quantitative first phase of this study, as the goal of this stage was to objectively test a range of pre-determined hypotheses concerning the impact of the training intervention on a range of participant variables using distinctly measureable means.

Constructivists believe there are numerous socially constructed realities which are formed through the interaction people have with others and with their own histories (Cresswell & Plano Clark, 2011; Mertens, 2015; Taylor, 2018). Perspectives may often be in conflict with one another, and often change throughout the course of the research process (Mertens, 2015). Unlike postpositivism, where determination is the goal, constructivism seeks to understand the world through the

eyes of those who experience it (Mertens, 2015). A ‘bottom up’ approach is generally employed with the goal of taking individual perspectives and combining them to form broader patterns and finally, broader understandings (Cresswell & Plano Clark, 2011). This approach acknowledges the active link between researcher and participant in which both parties influence one another and their values are explicit (Mertens, 2015). This approach also notes confirmability at its core, with all data and outcomes arising from the context and participants (Lincoln & Guba, 2000). All data is therefore defendable as it is traceable back to its source and the logic through which interpretations are collated is explicit (Lincoln & Guba, 2000; Mertens, 2015). Qualitative methods obtaining the perceptions of a range of shareholders are typically employed within this paradigm, as they embrace the social construction of meaning by recognising that crucial interaction between researcher and participant (Lincoln & Guba, 2000; Mertens, 2015; Taylor, 2018). Phase two of the current study fitted well with this paradigm as the perspectives of multiple shareholders were obtained, conflicting viewpoints were acknowledged and welcomed, and meaning was constructed through ‘bottom up’ inductive thematic analysis in which a range of perspectives were amalgamated in a defendable and logical manner.

The current study was summarised as follows in line with Crotty's (1998) framework:

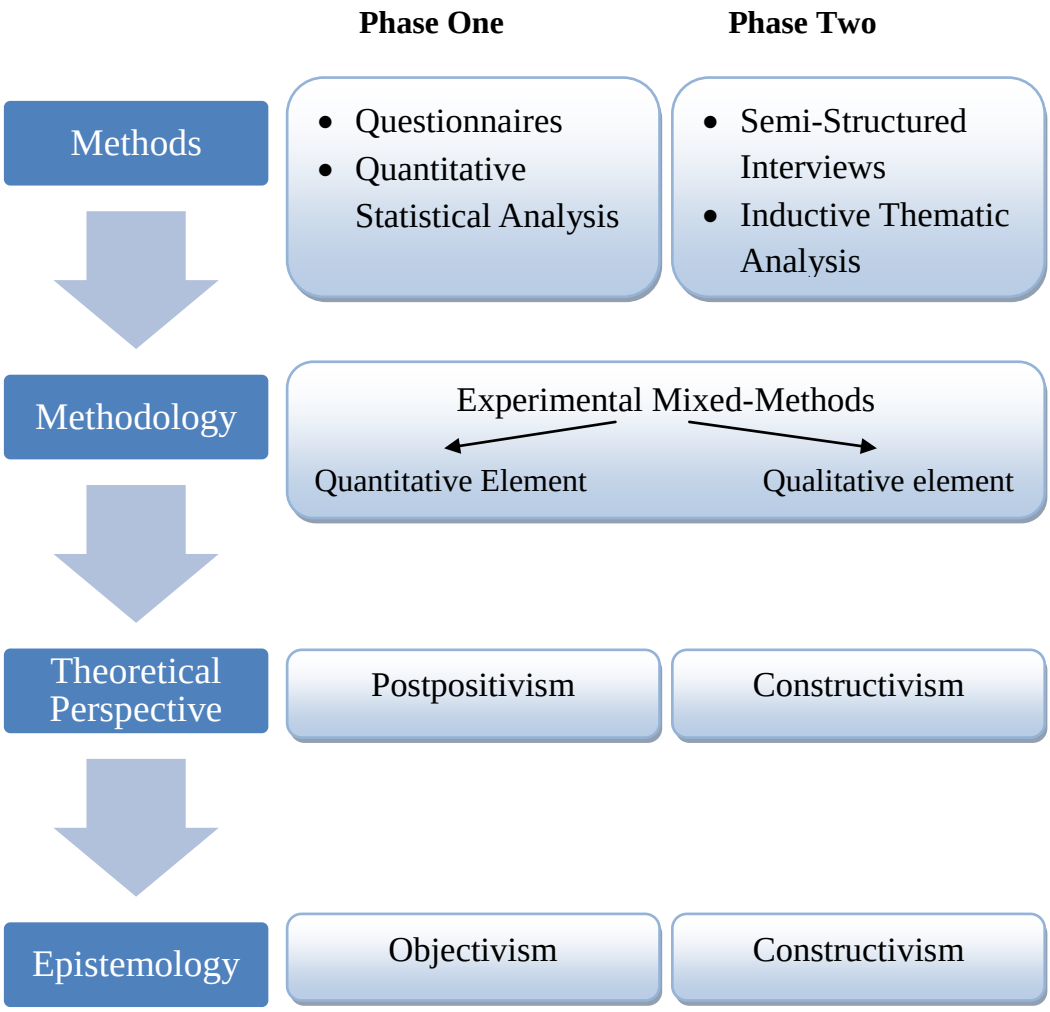

Figure 12. Study summary in line with Crotty's (1998) framework

4.1.3 Strengths of the Current Study

The most prominent strength of the current study may have been the use of a mixed-methods design and the inclusion of a control group, with the review paper noting neither had been employed in this type of research in an educational setting previously. Mixed-methods research is recommended when implementing complex interventions, as it allows the researcher to explore and understand the intervention itself and gain an insight into the systems within which the intervention is being

implemented (Noyes et al., 2019). Although time-consuming in nature, utilising sequential explanatory mixed-methods was a strength as it allowed the initial quantitative results to be explored (Cresswell & Plano Clark, 2011). This is particularly important with emerging approaches and aligns with Chambless and Hallon's (1998) belief that outcome measures should not just focus on predictable target variables, but should also explore the impact of an intervention in a broader and more holistic sense, achieved through qualitative analysis. Similarly, the inclusion of a control group was crucial as without this, findings could not be effectively discriminated from confounding variables potentially contributing to outcomes, such as participant expectations and maturation effect (Malay & Chung, 2012; Pituch & Stevens, 2016). A control group was also vital as it allowed efficacy in comparison to treatment as usual to be demonstrated (Pituch & Stevens, 2016). Without this, it would have been impossible to determine if the intervention was superior to standard practice (Malay & Chung, 2012; Pituch & Stevens, 2016).

A further strength was the use of the TSSTP as the professional development intervention. The TSSTP was developed with reference to significant literature in four key trauma-related areas: 1) Trauma and its impact on adults and children; 2) The field of trauma-informed care at large; 3) Emerging practices around trauma-sensitive schools; and 4) Systems change and implementation science. The inclusion of systems change and implementation science literature played a major role in the selection of the package as it suggests improving variables which influence the uptake of content is central within the intervention and suggests content is organized to facilitate more effective implementation in schools (University College London Institute for Global Health, n.d.). Additionally, the TSSTP was selected as it fulfilled a number of important criteria, as identified in the WoE C section of the review

paper. These included being designed to be delivered in an education setting to all education staff and consisting of professional development in the three important areas of creating foundational knowledge of trauma, core principles/key domains of a trauma-sensitive approach and strategies for trauma-sensitivity (SAMHSA, 2014; McIntyre et al., 2019). Numerous valuable resources were also supplied as part of the package, further strengthening the case for selection. These included resources to support staff in navigating student crises, developing student social and emotional skills and in implementing self-care strategies for themselves and other staff.

The inclusion of staff currently working in DEIS schools also represented a strength. Research shows children living in disadvantaged social contexts are at higher risk of experiencing trauma and ACEs than those not living in these circumstances (National Health Service Highland, 2018). Strong associations exist between factors such as unemployment and increased risk of childhood trauma, with a dose-response relationship noted between low socio-economic status, poverty and higher traumatic exposure (Bradley-Davino, & Ruglass, n.d.; National Health Service Highland, 2018). Lower socio-economic status is also associated with increased levels of the original 10 ACEs, repeated exposure to trauma and increased probability of residing in geographical areas and residence types with heightened susceptibility to potentially traumatic experiences (Bradley-Davino, & Ruglass, n.d.; Santiago, Kaltman, & Miranda, 2010; Sedlak et al., 2010). While the majority of evidence originates in the U.S., data closer to home is also available. Evidence from the United Kingdom notes mothers in the lowest socio-economic status quintile are four times more likely to present with mental health difficulties in the first four years of their child's life than those in the highest quintile (Scottish Government, 2015). Research from the United Kingdom also illustrates low socio-economic status plays

a substantial role in numerous personal and family difficulties, such as breakdown of relationships, personal distress and inter-family conflict (Scottish Government, 2015; University College London Institute of Health Equity, 2015). These findings are particularly concerning as parental mental health difficulties and family discord are highlighted as extended ACE categories according to Hughes et al. (2017). Findings are mirrored in an Irish context, with children living in disadvantaged circumstances considered to be at higher risk of experiencing trauma (McCarthy, 2018). Additionally, many DEIS schools serving these communities report high levels of trauma and difficulties in home environments among their school populations (Irish National Teachers' Organisation, 2015; McCarthy, 2018). These statistics led to DEIS schools being selected for the current study as they suggested many staff working in these schools would have encountered students affected by trauma and suggested these personnel may have greater potential for effecting positive change due to the elevated levels of students affected by trauma attending their schools.

Further strengths were the inclusion of the leadership team and all education staff in the intervention school, as well as utilising participants employed in a primary rather than second level setting. Due to the focus on relationships in the training package, delivering training to primary school staff was proposed as more beneficial as children in this setting have a single class teacher, and potentially a special education teacher, who are responsible for their care and teach them for the full day every day (DES, 2014). Conversely, in a second level setting children are taught by numerous teachers throughout the school day (DES, 2014). Additionally, early intervention has been highlighted as "the most efficient and cost effective means of promoting health and wellbeing and reducing long terms demands on services" in Ireland, as it yields significantly more positive results than interventions

in later life (PEIN, 2019, p.4). The inclusion of the school leadership team also characterised an important facet of the current study. Leadership buy-in is noted as crucial in the successful implementation of approaches in Irish educational settings and change is noted as occurring most effectively when school leaders are supportive and leadership is evident at all stages of a project (NCCA, 2009). Similarly, the whole-staff of the intervention school were included as participants as Guarino and Chagnon (2018) recommend all staff should receive training in trauma-sensitive practices for a school to be trauma-sensitive. These authors highlight several reasons for this. These include decreased risk of staff misunderstanding, exacerbating, ignoring or failing to recognise student trauma-related behaviours and reduced risk of staff responding to these behaviours in ways that cause additional harm to the student themselves, other students or staff. The significance of these inclusions are further reinforced by the findings of Brown et al. (2012) in the review paper of this study. Their results suggested that trauma-sensitive professional development interventions in educational contexts are most effective when undertaken in a whole-organisation approach, when influential system leaders are involved, and when trauma-sensitive concepts are already in place to some extent.

Additional strengths included the measures employed and the target variables utilised, with all variables selected identified as key components in successful implementation of interventions in educational settings (Cullen et al., 2010; Durlak & DuPre, 2008). Regarding the measures employed, four of the six primary measures utilised presented with strong psychometric properties. The remaining two measures had been utilised in published research, as outlined in the method section of the Empirical Paper. Due to the lack of psychometric data to support the use of the KUTIA, a second measure to evaluate the target variable of knowledge and

awareness of trauma was required, which resulted in the inclusion of the TTS. Notably, using this scale as the sole measure for this variable was considered, but it was decided it would be beneficial to include the KUTIA due to the focus on participant knowledge of burnout and vicarious traumatization. Regarding the training evaluation measure utilized, it was felt evaluating participant perspectives of the training they received was important in terms of the social validity of the intervention. A number of rationales existed for this decision. These include the need to attain buy-in from the school leadership team and the teachers and SNAs who will implement interventions so they may be implemented successfully and change may be instigated (Marchant, Heath, & Miramontes, 2013; Turan & Meadan, 2011). Fidelity checklists were utilized to guarantee treatment fidelity, with both direct and indirect assessments of fidelity employed to represent strong assessment of fidelity (Kaderavek & Justice, 2010). The foresight of being cognisant of participant fatigue and using short versions of measures when available, such as TSES, was also a strength. In line with recommendations provided by Steyn (2017), measures utilising as few questions as possible but maintaining acceptable reliability and validity were employed in order to minimise respondent fatigue.

An additional strength identified pertained to the process of data screening. Power analysis conducted prior to undertaking the study demonstrated that a total sample size of 38 participants was required to attain the recommended minimum effect size in applied work for social science data of .41 with power set at the conventional figure of .80 (Cohen, 1988; Ferguson, 2009). To fulfil this criterion, at least 19 teachers were recruited as participants from each school. Prior to undertaking data analysis, all participant data was screened for issues such as participant non-engagement to ensure it was useable, reliable and valid for analysis

(NCSS Statistical Software, n.d.). Data was screened with the use of the 'Stat Tools Package' attained from StatWiki (2017).

The final strength noted relates to the process of data analysis, both quantitative and qualitative. After data screening, quantitative data analysis was undertaken using both the original data and data transformed according to Templeton's (2011) two-step approach for transforming continuous variables to normal distribution. This presents as a strength as data analysis was initially performed on the transformed quantitative data, with results then verified using the original data (Ware et al., 2013). Data transformation was undertaken primarily to increase power and reduce the risk of a type I or type II error in the analysis of SNA data due to small sample sizes (Pituch & Stevens, 2016). This procedure was subsequently standardised across all participant data in the study (i.e. all SNA and teacher dependent variables at both pre- and post-assessment). Transforming data has a number of benefits including reducing skewness and producing normal distributions. These distributions are an assumption of many parametric tests and are necessary if these powerful alternatives to non-parametric analysis are to be utilised (Cox, 2007; Faber, & Fonseca, 2014; John et al., 2013). Utilising Hedges' *g* for the effect sizes in the pairwise comparisons was also a strength as this value is recommended above Cohen's *d,* particularly when sample sizes are small (Lakens, 2013). Similarly, the rigor with which the qualitative analysis was undertaken was deemed a strength. Throughout the process of analysis, the researcher transcribed and coded all data himself to ensure familiarity with the data and to maintain the context when coding (Braun & Clarke, 2006). Additionally, thematic analysis was undertaken with the data of each cohort separately, with separate themes and subthemes developed for each. These were subsequently collated to generate a

comprehensive representation of participant responses (Braun & Clarke, 2006, 2013). Finally, qualitative data was quantified using the approach of Daly et al. (2016) and Griffin-O'Brien (2019). This improved the validity of the qualitative data and allowed the frequency at which themes and subthemes were present to be communicated through quantifiable vocabulary (Griffin-O'Brien, 2019; Smith et al., 2009).

4.1.4 Limitations of the Current Study

In spite of the multitude of strengths inherent with this study, a number of limitations must be acknowledged. The most significant of these was the potential impact of the researcher assuming the role of 'insider researcher' while undertaking the study. While the researcher did not fulfil the traditional view of 'insider researcher' in the sense of working in the intervention school before or after the intervention, the same individual delivered and evaluated the intervention (Dublin City University, 2017). Due to practicality, the study could not have been organised to avoid this 'insider researcher' phenomenon. Similar to Ashton's (2016) study, financial resources were not available to employ staff to deliver the training intervention or conduct quantitative and qualitative data collection, resulting in the researcher fulfilling all of these roles. Several implications representing threats to the reliability and validity of study data are associated with this situation, such as social desirability (Edwards, Thomsen, & Toroitich-Ruto, 2005; Larson & Bradshaw, 2017; van de Mortel, 2008). Social desirability in participant self-preservation may have occurred due to the familiarity and professional relationship participants had developed with the researcher (Edwards et al., 2005). Participants may have feared being judged based on the information they provided and may instead have chosen not to share accurate information in order to present a positive image of themselves

(Edwards et al., 2005; Kita, 2017; Shah, 2004). Participants may also have been inclined to provide information which aligned with the researcher's desired result, while simultaneously being reluctant to share information which conflicted with the researcher's perceived goal (Edwards et al., 2005; Kita, 2017; Mercer, 2007). Similarly, social desirability in terms of demand characteristics may have occurred as participants may have wanted to influence the results so positive findings would be attained (Edwards et al., 2005). Conscious of the potential impact of social desirability, several strategies were employed to minimise these phenomena. These included anonymising participant data, with this approach identified as reducing social desirability and self-presentation concerns among participants (Thielmann et al., 2016). Additionally, qualitative interviews were undertaken in a private location, confidentiality and anonymity were assured during interviews, and only the researcher had access to information pertaining to which participants participated in interviews (Latkin et al., 2016).

An additional limitation was the sole use of self-report measures in the quantitative element of the study. This presented issues including a lack of information regarding staff behaviour, which suggests the need for future research involving behavioural data. This is recommended as while staff may have felt capable of responding to the needs of students affected by trauma, their actions may not have reflected these beliefs (Alisic, 2012, Alisic et al., 2012). Additionally, self-report measures are susceptible to the Dunning-Kruger effect when used with education personnel as staff may view themselves as more competent in undertaking employment-related tasks than they are in reality (Kruger & Dunning, 1999; Podgoršek and Lipovec, 2017). Regression to the mean may also have occurred from pre- to post-intervention in the intervention group. This phenomenon is common in

social psychology studies and occurs when values, which are extreme at the initial time point, approach the mean when subsequently re-assessed (Yu & Chen, 2015). This effect was controlled for with the inclusion of a control group and as no differences were noted between groups pre-intervention, this phenomenon should have affected both the intervention group and control group equally (Yu & Chen, 2015).

The lack of reliability and validity in the amended SNA scales in the current study represented a limitation. The TSES, TTS, ARTIC-10 and ARTIC-35 self-efficacy sub-scale were amended for SNA use to either reflect their professional role or due to concerns regarding reliability. While these amended scales fulfilled the criterion of face validity (Holden, 2010), exploratory factor analysis and confirmatory factor analysis could not be carried out to assess composite reliability, discriminant validity or convergent validity as the minimum sample size required for these analysis are 50 and 200 respectively (de Winter, Dodou, & Wieringa, 2009; Myers, Ahn, & Jin, 2011). Therefore, while these amended measures appeared promising due to their face validity, their reliability and validity could not be guaranteed which raised potential concerns regarding their ability to measure the target variables accurately and effectively (Alisic et al., 2012; Holden, 2010). These difficulties were outweighed by the strength of the teacher data however, as the measures utilised with this cohort provided very strong psychometric properties. Additionally, teacher data represented the core focus of the study as both intervention and control conditions were present and the majority of study participants were teachers.

It is possible that the choice of the TSSTP as the intervention may also be considered a limitation due to the dearth of evidence supporting this training

package. While based on strong theoretical and literature bases, the fact that the TSSTP is unevaluated prior to the current study raises concerns regarding the certainty with which this intervention can confidently be recommended for implementation in schools (Chambless & Hollon, 1998; Dharni et al., 2019; Komro et al., 2016; Public Health England, 2018). Until at least one additional replication study has been carried out by independent researchers, the TSSTP cannot be confidently termed as an 'efficacious' intervention (Chambless & Hallon, 1998, p.8; Dharni et al., 2019; Public Health England, 2018). This does not to imply the TSSTP is ineffective, but rather, highlights the need for further investigation across multiple contexts to be undertaken as this protects from erroneous conclusions being drawn if one aberrant set of results are utilised exclusively (Chambless & Hallon, 1998; Komro et al., 2016; Public Health England, 2018). Evaluation by more than one research team is also crucial as it protects against researcher bias and researcher reliance on the provision of positive or unique findings (Chambless & Hollon, 1998; Komro et al., 2016). Until this is undertaken, the TSSTP should be considered as an intervention which has huge potential but lacks sufficient research support at present to be defined as 'efficacious', thus falling in the category of 'possibly efficacious' treatments, as outlined by Chambless and Hollon (1998, p.8).

While not a limitation, it was decided that only Modules 1 and 2 of the TSSTP would be delivered to school staff in this study, with Module 3 (Leading Trauma-Sensitive Schools) not delivered. Module 3 focuses on developing leadership understanding of the process of planning for and implementing trauma-sensitive practices (Guarino & Chagnon, 2018). The potential loss experienced through omitting this module was countered by ensuring the entire school leadership team participated in all aspects of the professional development intervention. This is

important as leadership buy-in is crucial in successful implementation of approaches in Irish educational settings and change occurs most effectively when school leaders are supportive and their leadership is evident at all stages of the project (NCCA, 2009). A number of rationales were present for this omission including referencing the 'Decision Tree for using the Training Package' (Guarino & Chagnon, 2018) provided by the package authors which lists the purpose of each module. This document states that when the goal of professional development is to educate school leaders and staff about trauma and trauma-sensitive practices, only Modules 1 and 2 should be delivered. Additionally, Module 3 was not delivered as the target audience of this module is the leadership team of the school, not the whole-school staff. Module 3 was also not practical to deliver due to the additional time commitment required from the school as the authors suggest this module takes approximately 175 minutes to deliver (Guarino & Chagnon, 2018). The authors of the TSSTP were corresponded with regularly throughout the research process and indicated support for omitting Module 3 for the purpose of the current study.

A final limitation identified is the failure to explore staff variables which may have impacted on the results attained. Alisic et al. (2012) note education staff's perceived ability to respond to students affected by trauma is influenced by a number of factors. These include attendance at training in the past three years related to trauma-sensitivity, the length of time employed in their professional role and the number of students affected by trauma worked with previously. These findings are echoed in the qualitative data from the current study, with participants noting greater confidence in responding as a result of experience. Therefore, these factors may have acted as confounding variables and impacted the results observed (Pituch & Stevens, 2016). While exploring these factors was considered prior to undertaking the current

study, this was not pursued as it was not possible to attain the sample size required to generate sufficient power for analyses on these additional variables (Cohen, 1992).

4.1.5 Ethical Considerations

A number of ethical considerations were identified in advance of the current study. These considerations were linked to pre-meditated decisions within the research design, which allowed a high level of foresight and planning to be exerted and strategies to be implemented to minimise potential difficulty. The most pertinent consideration was the inclusion of a wait-list control group, rather than a no treatment control group. A wait-list control was utilised to ensure the provision of the intervention to the control group so they would not be disadvantaged compared to the intervention group. Wait-list control groups are noted as more ethical than no intervention control groups as all participants receive the potentially effective intervention being evaluated (Barker et al., 2016). Prior to undertaking the study, the control school were informed they would be offered the intervention after study completion. There was no obligation for this school to undertake the intervention and they were informed data from any subsequent interventions would not be collected or analysed as part of this study.

A number of steps were undertaken to align with the principles of research ethics, as outlined by the APA (2018), the British Psychological Society (2018) and Psychological Society of Ireland (PSI; 2019a). These included storing sensitive data in a secure manner accessible only by the researcher, maintaining confidentiality throughout the study and anonymising participant data. Additionally, the code/name sheet used to ensure participants received the correct assessment at post-intervention which corresponded to their participant number was shredded at post-intervention.

Informed consent was also sought in line with the previously noted ethical codes as participants were informed of their right to not participate in the study or withdraw at any time. Participants were also provided with the contact details of the researcher, the researcher's supervisors and the Mary Immaculate Research Ethics Committee administrator. Similarly, while participants were informed direct quotes from their semi-structured interviews may be used in the write-up of the thesis and in subsequent publications/conference presentations, they were assured no individual participant or school would be identifiable.

A further ethical consideration planned for was the fact the current study could potentially involve sensitive personal issues or cause feeling of shame, embarrassment or guilt among participants (PSI, 2019a). Exploring trauma and its impact throughout the training may have brought up difficult feelings for participants or caused re-traumatisation, particularly if participants or someone close to them had experienced trauma themselves (Hydon et al., 2015; NCTSN, 2011). Additionally, participants may have experienced secondary traumatic stress and vicarious trauma as a result of participating in the intervention and increasing their awareness of secondary trauma and the associated negative impacts (Baker et al., 2018; Hydon et al., 2015; NCTSN, 2011). Participants may also have felt regret regarding their previous interactions with students affected by childhood trauma and may have re-experienced the difficulties they felt when teaching or supporting these students (Hydon et al., 2015). Foresight was exerted in relation to these issues, with a number of strategies implemented. These included informing and reassuring participants of their right to withdraw from the study at any time and informing participants they were under no obligation to discuss sensitive personal information or experiences. Additionally, participants were provided with self-care strategies, further information

on childhood trauma and trauma-sensitive schools, and the contact details of various public and private professional supportive organisations which provide counselling and support in their area. These resources were provided as both Boccellari and Wiggall (2107) and Hydon et al. (2015) highlight these strategies as effective in supporting staff members who have been affected by secondary traumatic stress or vicarious trauma.

4.1.6 Personal Reflection

When I reflect on the many phases involved in undertaking this doctoral thesis, a number of challenges come to the fore, as well as times of huge positivity and reward. These experiences will be explored using Rolfe, Freshwater and Jaspers' (2001) reflective framework. A description and interpretation will be discussed, along with implications for future educational psychology practice.

The most challenging time I faced while undertaking the current study was the dilemma regarding which design to utilise – experimental design with a control group or a case-study design. While a case-study design would not normally be considered for a study of this type, the inclusion of the school as the bounded case and the discovery of studies utilising case-study designs to evaluate interventions complicated this decision, such as Lim and Ogawa (2014) and Krawczyk (2017). A number of previous studies have utilised the school as the bounded case. These include the study of Dennis (2019), who used an inner-city co-operative school in the UK, and Krawczyk (2017), who used the whole-school staff of a primary school in the UK. Conversely, the use of an experimental group appeared a natural decision considering the evaluative nature of this study, with many previous studies utilising this approach, such as Beverley, Hughes and Hastings (2018), and Reinehr, Bucksch,

Müller, Finne and Kolip (2018). My main concern with this approach was that if I employed it exclusively, I would lose the voice of several important protagonists in the school system, such as the school principal and the NEPS psychologist. As this represented perhaps the most important decision in terms of study design, I spent a considerable amount of time referencing relevant literature and seeking advice from psychologists with an array of research experience. Unfortunately, this resulted in a delay in the research process which proved a substantial source of difficulty and stress. Ultimately, I chose to employ a hybrid of both approaches as I felt there were elements of both which would be invaluable and could not be disregarded. Therefore, I chose to utilise an experimental sequential explanatory mixed-methods design. I employed aspects of a case-study design through the inclusion of the school unit as the bounded case and the voice of the school principal and NEPS psychologist in the qualitative component of the study. Regarding my future professional practice, this experience has improved my confidence in determining the most appropriate course when designing professional research and in combining strategies to create a stronger approach. I believe this will be beneficial across all domains of my professional practice including therapeutic approaches in which the amalgamation of strategies is noted as often much more effective than implementing a single approach (Zarbo, Tasca, Cattafi, & Compare, 2015).

An additional challenge experienced was reliance on others. While all empirical studies rely on participants volunteering their time, greater dependence on others can pose greater potential for delays, difficulties, and the project not aligning with what was originally envisaged (Ashton, 2016; Brewer, 2000; Robson, 2011). Prior to undertaking the study, I did not realise the number of individuals I would be relying on to successfully undertake the project and the associated time delays. At

various phases during the study, progress was heavily dependent on others, with examples including sourcing an appropriate intervention and control school to participate, recruiting participants from these schools, and scheduling training sessions during school Croke Park hours in line with intervention school stipulations (DES, 2011, 2016b). While I am now more aware of the difficulties of this aspect of research, I feel the study could not have been organised differently if it was to be repeated. Therefore, the most important learning from this experience is to be more aware of the need to depend on others and where possible, factor in discretionary time to cater for potential delays (Robson, 2011).

A number of positives arose throughout the research process which emphasised the value of the project. These included the realisation among staff of the impact of a child's background on his/her behaviour and staff commitment to implementing strategies to support their students. Similar moments of encouragement included staff realising the importance of self-care and brainstorming ideas of how, and where, they could implement supports in their school. A further positive involved a whole-staff discussion at the beginning of Module 2. During this activity, staff brainstormed and described to one another the various strategies currently being implemented in the school, resulting in all staff members feeling affirmed and realising they had already being doing a substantial amount to support all of their students. An additional positive involved an SNA in the school who, at the end of the first training session, approached me seeking advice regarding a student in her care who had been affected by trauma and was displaying behavioural difficulties in school. During her semi-structured interview, this SNA explained that she had implemented her new knowledge of trauma, particularly in terms of traumatic triggers, and had changed her approach with the child as she realised many of her

actions were a trigger for him, most notably her compelling him to undertake academic work. The SNA in question could not believe the improvements observed in a matter of weeks in areas consistent with those reported by Dorado et al. (2016). Regarding my future professional practice, these positives highlight the potential value of professional development in trauma-sensitive practices and further increase my motivation to ensure these practices are implemented in services and schools nationwide (Dorado et al., 2016; McIntyre et al., 2019).

4.1.7 Implications of the Current Study

While the movement towards developing trauma-sensitive schools is still developing, the current study lends itself to reinforce the value of professional development interventions in this area. While previous studies have been undertaken in this field, none have explored the impact of this category of intervention in an education setting with the use of either mixed-methods research or the use of a control group, with both crucial in determining the true value of complex interventions implemented within a system (Chambless & Hallon, 1998; McIntyre et al. 2019; Noyes et al., 2019; Pituch & Stevens, 2016). This study fills this void with the inclusion of both of these methodological features, thus allowing more weight to be given to the results attained as a range of confounding variables can be discounted (Pituch & Stevens, 2016). Regarding professional practice for psychologists and schools, this study provides supportive evidence for a trauma-sensitive schools professional development intervention which is noted as improving key implementation-related variables, is based on a substantial literature base, and is freely available and accessible to any professionals wishing to utilise it (Guarino & Chagnon, 2018). It may be best if current initiatives being implemented in schools are integrated with training content however, such as restorative practices and

positive behaviour support plans (Baker et al., 2018). This is crucial as while training in the area of trauma-sensitive schools provide the reasons 'why' schools should implement a trauma-sensitive lens, practices such as those mentioned above provide the 'what to do' to help create these trauma-sensitive educational environments (Dorado et al., 2016). As outlined in the discussion section of the Empirical Paper, this would allow the NEPS Continuum of Support (DES, 2010) to be reflected as the ideological concepts and strategies explored in the TSSTP could be implemented at the first, universal stage of the continuum, with additional intensive interventions delivered in line with the second and third stages (DES, 2010). Although positive results were reported in the current study, future research is required. In line with recommendations from previous studies, it may be advisable for the duration of the study to be extended and for content implementation to be evaluated to ascertain if participants effectively transfer content to their professional practice (Crable et al., 2013). This may be achieved through the use of behavioural staff observations at pre- and post-intervention, rather than just self-report measures (Alisic, 2012; Alisic et al., 2012). It is also advised that levels of vicarious trauma are assessed at both pre- and post-intervention to evaluate whether the intervention is effective in reducing this potentially damaging variable (Baker et al., 2018; Hydon et al, 2015). Additionally, it is recommended that further means to control for social desirability are utilised and staff variables which may have impacted on target variables are explored, such as experience and prior training. This would enable confounding variables potentially impacting on the results attained to be further discounted (Alisic, 2012; Alisic et al., 2012; Crable et al., 2013; Dorado et al., 2016).

The current study also revealed potential barriers to content implementation, representing a significant addition to the knowledge base in the area. To date,

previous studies have failed to explore potential obstacles which may impede the implementation of training content (Dorado et al., 2016; McIntyre et al., 2019). This is a crucial omission as when barriers to implementation are not identified, effective strategies to overcome these obstacles cannot be developed and successful implementation cannot therefore be guaranteed (Fischer, Lange, Klose, Greiner, & Kraemer, 2016). Additionally, failing to appropriately consider and explore the various systems influencing implementation and the interactions between them results in inaccurate and ineffective recommendations for policy and practice (Eriksson, Ghazinour, & Hammarström, 2018). This is particularly important with the TSSTP as it aims to enact a change in the deep structures of the school through an ideological shift in staff's perception of responding to trauma (Guarino & Chagnon, 2018; McDonnell, 2003; Schein, 1992). If barriers are not successfully identified and addressed, this transformation of ideological views may be impeded however, resulting in the core aim of the TSSTP being lost and it being implemented solely as an additional intervention at the surface level (Guarino & Chagnon 2018; Kinsella & Senior, 2008; McDonnell, 2003). Regarding professional practice for psychologists and schools, the barriers identified in this study present factors which need to be carefully considered and planned for in advance. It is possible that even if the training intervention itself is effective, these obstacles may impede the successful implementation of content if they are not controlled for (Eriksson et al., 2018). Frameworks and policy currently informing the Irish educational system must also be acknowledged and aligned with for content implementation to be successful. These include the NEPS Continuum of Support (DES, 2010), the School Self-Evaluation Framework (DES, 2012, 2016e, 2020) and the recent Well-Being guidelines for schools (DES, 2019a), with potential solutions for implementation

outlined in the discussion section of the Empirical Paper. This suggests that research evaluating the implementation of content from the TSSTP needs to be cognisant of these barriers and frameworks and suggests they need to be explored and aligned with throughout the process of implementation.

This study represents a further addition to the knowledge base of the topic through the inclusion of the whole-school staff as participants in the intervention school, comprising of staff in a range of professional roles. The majority of studies to date have failed to reflect the diverse nature of education staff, with no previous study enlisting all education staff working in a school as participants (Dorado et al., 2016; McIntyre et al., 2019). This represents a failure to appropriately engage with and explore the various systems affecting successful implementation (Eriksson et al., 2018). This void is rectified in the current study. The inclusion of SNAs proves particularly important, as evidenced by the valuable SNA belief that their role affords them more power than any other staff member to identify students who may be struggling. This finding emphasises the power of the SNA role and aligns with previous research highlighting the emotional support these personnel provide to their target pupils (Bowles, Radford, & Bakopoulou, 2018; Ware, Butler, Robertson, O'Donnell, & Gould, 2011). Similarly, it corresponds to the work of Broer, Doyle and Giangreco (2005) who note children with disabilities feel these paraprofessionals provide invaluable assistance to them, often characterising the relationship between themselves and their paraprofessional in terms of a mother, friend, protector or primary educator. Regarding professional practice, these findings illuminate the importance of gaining the buy-in of all school staff, not just teachers (American Federation of Teachers, 1999; French-Bravo & Crow, 2015). Additionally, current findings also emphasise the benefits for training similar to the TSSTP to be delivered

to all staff working in DEIS settings, regardless of their role, with this possibility highlighted by the NEPS psychologist. This training could be delivered to DEIS schools by NEPS psychologists, particularly if a specialist trauma-sensitive role is delivered within this organisation, as suggested by the NEPS psychologist, or during initial professional training. While this would require NEPS to embrace the TSSTP as one of their core training initiatives, a training package of this kind may be warranted at present as it is highly probable that higher levels of trauma will exist within schools following the global Covid-19 pandemic, such that school-wide awareness, sensitivity and response in this regard will be required (Duan & Zhu, 2020; NCTSN, 2020). Embracing the TSSTP would also reflect a number of key NEPS roles including providing psychological advice and training to support schools in responding to pupil difficulty and engaging in preventative work in schools (Cameron, 2007; Vivash & Morgan, 2019). Regarding future research, it may be beneficial to utilise a larger, more diverse population, such as including staff working in both DEIS and non-DEIS settings, and to include the voice of the child and child outcomes as areas of exploration, with these recommendations aligning with those from numerous previous studies (e.g. Alisic et al., 2012; Brown et al., 2012; Crable et al., 2013; Dorado et al., 2016; McIntyre et al., 2019). This would allow the potential subsequent effect of the training intervention on children affected by trauma to be assessed and would enable the results attained to be more aptly generalised and a more accurate understanding of the true impact of the training intervention to be garnered (Crable et al., 2013; McIntyre et al., 2019). Undertaking further research with a larger sample size would also allow the reliability and validity concerns of the amended SNA scales to be addressed, as exploratory and

confirmatory factor analyses could be appropriately performed (de Winter et al., 2009; Myers et al., 2011).

The current study also adds to the topic area through the identification of the substantial negative impact responding to trauma can have on education staff and the need for support for these personnel. These findings align with previous research on secondary traumatic stress, vicarious trauma, and recommendations for within-school support for staff, with these areas previously unexplored with Irish education staff (Alisic, 2012; Boccellari & Wiggall, 2017; Hydon et al, 2015). The insight gained into staff frustration also adds to current topic knowledge. Staff expressed frustration at the lack of supportive services for students affected by trauma and at the perception they should be fulfilling these professional, with this matching previous findings from Alisic (2012) and Alisic et al. (2012). This also aligns with recent findings in an Irish context, as the National Council for Special Education (2018) highlight the extent to which SNAs in particular are expected to assume a range of professional roles without appropriate training, such as behaviour practitioners. Regarding professional practice, this study highlights the need for supportive structures to be implemented to reduce the risk of secondary traumatic stress and vicarious trauma among education staff. It is advisable this takes the form of recommendations provided by Hydon et al. (2015) and Boccellari and Wiggall (2017). These authors suggest developing supportive within-school structures with external support when required as the gold standard, rather than external support exclusively. This within-school support aligns well with staff preference, as indicated in the qualitative data, and it is advised NEPS support is provided to assist its development. This could take the form of the delivery of established peer supervision training courses by NEPS, or the development of ‘bespoke’ peer

supervision training by NEPS in line with the British Psychological Society Core Competencies of Educational Psychologists (British Psychological Society, 2019), as outlined in the discussion section of the Empirical Paper. Current findings also outline the need for the development of a strategy to reduce the financial pressure on schools to fund private therapies and allow students affected by trauma to gain specialised support. The new school inclusion model may represent a solution to this issue, with a pilot currently in place with 75 schools in the Kildare, Wicklow and South Dublin region (DES, 2019c). This approach entails the recruitment of additional NEPS psychologists and assistant psychologists, as well as the formation of a regional support team of occupational therapists, speech and language therapists and behaviour support practitioners to support students in these schools. This is vital as although early intervention has been cited as crucial, many children are waiting at least one year, and often much longer, to access child psychology support (Barnardos, 2018; PEIN, 2019). Implications for future research include the need to evaluate the impact of the previously described staff support mechanism on staff levels of vicarious trauma and the subsequent impact on their students, as well as assessing the impact of a strategy to allow students to readily access specialised support (Dorado et al., 2016; McIntyre et al., 2019).

4.1.8 The Distinct Contribution of the Current Study

I feel the current study makes a distinct contribution to the knowledge base in the topic of professional development interventions in trauma-sensitive schools and demonstrates evidence of originality through a variety of means.

Regarding international research, the current study represents the first to evaluate the efficacy of the TSSTP professional development intervention both

nationally and internationally. Additionally, it represents the first to assess the impact of a trauma-sensitive schools professional development intervention on the important implementation-related variables targeted in this study. It is also the first to deliver and evaluate this manner of intervention in an education setting explicitly categorised as disadvantaged and is the first to utilise both direct and indirect measures of fidelity, as well as assessing social validity, when delivering a trauma-sensitive schools professional development intervention. Regarding participants, the current study represents the first internationally to deliver and evaluate a trauma-sensitive schools professional development intervention in an education setting with only primary level education staff. Similarly, it is the first internationally to include the entire school leadership team as participants or to include all school staff working in the school, including the school psychologist, when delivering and evaluating a training of this kind. Similarly, this study makes a number of novel contributions to this area of research in Ireland. It is the first study in Ireland to deliver and evaluate the impact of a trauma-sensitive schools professional development intervention in an education setting. Similarly, it is the first in Ireland to assess the impact of a trauma-sensitive schools professional development intervention on education staff's knowledge and awareness of trauma and its impact. These additions not only demonstrate the originality of the current study, but also reveal the extent to which it has added substantially to the research base in the area of trauma-sensitive schools professional development interventions, both nationally and internationally.

4.2 Impact Statement

As this study provides crucial evidence for the effectiveness of the TSSTP, dissemination is imperative. Thus far, findings have been well-received at the 2019 NEPS Business Meeting (DES, 2019d) and PSI Annual Conference (PSI, 2019b). On concluding my doctorate, I intend to further the impact of this study through publishing in a peer-reviewed scholarly journal, delivering training to professionals in education centres nationally, and liaising with third-level institutions to potentially incorporate content into pre-service education and postgraduate psychology training courses.

The greatest impact of this study is recognised in terms of providing robust empirical evidence to support the efficacy of the TSSTP for use in professional practice. This is essential as the TSSTP is freely available and the content is amenable to numerous professionals, including education staff and psychologists, and can be adapted for home family use. Additionally, it is envisaged findings will support the movement in Ireland towards implementing trauma-sensitivity in our schools to improve the quality of the environment and the lives of our students affected by trauma. The current study supports this movement as not just the implementation of a single intervention, but rather, a means of supporting an ideological shift at the deep structural levels within school systems (McDonnell, 2003; Schein, 1992). The importance of this shift is reflected by Dr. Bruce Perry (2017; Portell, 2020) who asserts that by implementing trauma-sensitive practices in schools, countless ‘therapeutic encounters’ can occur between education staff and students, with every one healing the scars of trauma. The current Covid-19 pandemic further highlights the value of this resource as Duan and Zhu (2020) note traumatic stress associated with public health emergencies can last long after their conclusion.

Accordingly, it is highly probably higher levels of trauma will exist within schools following this unprecedented global pandemic, such that school-wide awareness, sensitivity and response in this regard will be required.

Regarding research, I believe this study may inspire future research exploring the implementation of TSSTP content and the subsequent impact on students and staff. This may entail academic research or action research carried out by NEPS with a view to all psychologists delivering the TSSTP to all schools, potentially starting with DEIS schools.

Additionally, it is envisaged current findings may cause the importance of trauma-sensitivity in education settings to be recognised by the DES, resulting in content being implemented into well-being guidelines for schools and the pre-service training of all teachers and SNAs. Regarding psychology specifically, I believe this study highlights the need for training to be implemented into the pre-service training of all psychologists, as it is likely all may encounter children, or adults, affected by trauma in their employment.

Overall, the design of this study and its related findings make a substantial contribution to the international research base regarding trauma-sensitive schools professional development interventions. It is envisaged findings may prove crucial in highlighting the efficacy of the TSSTP, as although trauma-sensitivity in schools is rapidly becoming recognised as integral in mitigating against the impacts of trauma, a dearth of evidence-based interventions exist. Through dissemination to national and international audiences, this study aspires to be an ‘agent of change’ through which practitioners are equipped with invaluable evidence supporting the TSSTP and

are inspired to support children affected by trauma in schools across the world (Dunsmuir & Hardy, 2016).

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Vivian, J. (2006). *2006 Exit Survey Report.* Phoenix, AR: Arizona Department of Juvenile Corrections.

Ware, J., Butler, C., Robertson, C., O'Donnell, M., & Gould, M. (2011). *Access to the curriculum for pupils with a variety of special educational needs in mainstream classes: An exploration of the experiences of young pupils in primary school* (NCSE Ed.). Meath: National Council for Special Education.

Ware, W. B., Ferron, J. M., & Miller, B. M. (2013). *Introductory statistics: A conceptual approach using R*. London: Routledge.

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Wiest-Stevenson, C., & Lee, C. (2016). Trauma-informed schools. *Journal of Evidence-Informed Social Work, 13*(5), 498-503.

Wilcox, P. D. (2012). *Trauma-informed treatment: The restorative approach*. Holyoke, MA: NEARI Press.

Wilde, N., & Hsu, A. (2019). The influence of general self-efficacy on the interpretation of vicarious experience information within online learning. *International Journal of Educational Technology in Higher Education, 16*, 1-20.

Wilson, K. R., Hansen, D. J., & Li, M. (2011). The traumatic stress response in child maltreatment and resultant neuropsychological effects. *Aggression and Violent Behavior*, *16*(2), 87-97.

Wright, L. L., & Lake., D. A. (2019). *Basics of Research for the Health Professions: Chapter 3.7 Internal Validity.* Retrieved from http://www.pt.armstrong.edu/wright/hlpr/text/3.7.intval.htm

Yin, R. K. (2014). *Case Study Research: Design and Methods* (5th ed.). Thousand Oaks, CA: Sage.

Yu, R., & Chen, L. (2015). The need to control for regression to the mean in social psychology studies. *Frontiers in Psychology*, *5*, 1574.

Zarbo, C., Tasca, G. A., Cattafi, F., & Compare, A. (2015). Integrative psychotherapy works. *Frontiers in Psychology*, *6*, 2021.

Appendices

Appendix 1: List of excluded studies

	Excluded Studies	Reason for Exclusion
1.	Brown, J. D., King, M. A., & Wissow, L. S. (2017). The central role of relationships with trauma-informed integrated care for children and youth. *Academic pediatrics*, *17*(7), S94-S101.	Criteria 4
2.	Dean, K. L., Langley, A. K., Kataoka, S. H., Jaycox, L. H., Wong, M., & Stein, B. D. (2008). School-based disaster mental health services: Clinical, policy, and community challenges. *Professional Psychology: Research and Practice*, *39*, 52.	Criteria 4
3.	Davies-Mercier, E., Woodbridge, M. W., Sumi, W. C., Thornton, S. P., Roundfield, K. D., Lee-St John, T., Rouspil. K. M., & Yu, J. (2017). Traumatic experiences and associated symptomatology in Asian American middle school students. *Asian American journal of psychology*, *8*(3), 209.	Criteria 4
4.	Cummings, K. P., Addante, S., Swindell, J., & Meadan, H. (2017). Creating supportive environments for children who have had exposure to traumatic events. *Journal of Child and Family Studies*, *26*(10), 2728-2741.	Criteria 2
5.	Alisic, E., Bus, M., Dulack, W., Pennings, L., & Splinter, J. (2012). Teachers' experiences supporting children after traumatic exposure. *Journal of Traumatic Stress*, *25*, 98-101.	Criteria 4
6.	Kramer, T. L., Sigel, B. A., Conners-Burrow, N., Worley, K. B., Church, J. K., & Helpenstill, K. (2015). It takes a state: Best practices for children exposed to trauma. *Best Practices in Mental Health*, *11*, 14-24.	Criteria 2
7.	Crosby, S. D., Somers, C. L., Day, A. G., Zammit, M., Shier, J. M., & Baroni, B. A. (2017). Examining school attachment, social support, and trauma symptomatology among court-involved, female students. *Journal of Child and Family Studies*, *26*(9), 2539-2546.	Criteria 2
8.	Sciaraffa, M. A., Zeanah, P. D., & Zeanah, C. H. (2018). Understanding and promoting resilience in the context of adverse childhood experiences. *Early childhood education journal*, *46*(3), 343-353.	Criteria 4

9.	Berger, R., & Quiros, L. (2014). Supervision for trauma-informed practice. *Traumatology*, *20*(4), 296.	Criteria 2
10.	Walkley, M., & Cox, T. L. (2013). Building trauma-informed schools and communities. *Children & Schools*, *35*(2), 123-126.	Criteria 4
11.	Blodgett, C., & Lanigan, J. D. (2018). The association between adverse childhood experience (ACE) and school success in elementary school children. *School Psychology Quarterly*, *33*, 137-146	Criteria 4
12.	Henry, J., Richardson, M., Black-Pond, C., Sloane, M., Atchinson, B., & Hyter, Y. (2011). A grassroots prototype for trauma-informed child welfare system change. *Child welfare*, *90*(6), 169-186.	Criteria 2
13.	DeRosa, R. R., Amaya-Jackson, L., & Layne, C. M. (2013). From rifts to riffs: Evidence-based principles to guide critical thinking about next-generation child trauma treatments and training. *Training and Education in Professional Psychology*, *7*(3), 195-204.	Criteria 2
14.	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.	Criteria 4
15.	Holmes, C., Levy, M., Smith, A., Pinne, S., & Neese, P. (2015). A model for creating a supportive trauma-informed culture for children in preschool settings. *Journal of child and family studies*, *24*(6), 1650-1659.	Criteria 2
16.	Damian, A. J., Gallo, J., Leaf, P., & Mendelson, T. (2017). Organizational and provider level factors in implementation of trauma-informed care after a city-wide training: an explanatory mixed methods assessment. *BMC health services research*, *17*, 750.	Criteria 2
17.	Strand, V. C., Abramovitz, R., Layne, C. M., Robinson, H., & Way, I. (2014). Meeting the critical need for trauma education in social work: A problem-based learning approach. *Journal of Social Work Education*, *50*, 120-135.	Criteria 2
18.	Field, J. E., Wehrman, J. D., & Yoo, M. S. (2017). Helping the Weeping, Worried, and Willful: Psychological First Aid for Primary and Secondary Students. *Journal of Asia Pacific Counseling*, *7*(2), 169-180.	Criteria 5
19.	Miles, J., & Bailey-McKenna, M. C. (2016). Giving Refugee	Criteria 4

	Students a Strong Head Start: The LEAD Program. *TESL Canada Journal*, *33*, 109-128.	
20.	Crosby, S. D. (2015). An ecological perspective on emerging trauma-informed teaching practices. *Children & Schools*, *37*(4), 223-230.	Criteria 4
21.	Kuhn, T. M., Cyperski, M. A., Shaffer, A. M., Gracey, K. A., Adams, M. K., Billings, G. M., & Ebert, J. S. (2019). Installing trauma-informed care through the Tennessee Child Protective Services Academy. *Psychological services*, *16*, 143-152.	Criteria 2
22.	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.	Criteria 4
23.	Fox, J., Gupta, R., & Mitchell, G. (2018). Considering developmental concepts from attachment theory to inform graduate student training in global trauma and disaster psychology. *International Perspectives in Psychology: Research, Practice, Consultation*, *7*(3), 189-201	Criteria 2
24.	Jaycox, L. H., Ayer, L., Vona, P., Hehman, C., Stein, B. D., Mahmud, A., Woolley, M., Meza, E., Thornton, E., & Venkatesh, B. (2019). Development and preliminary evaluation of a self-guided, internet-based tool for coping with stress and trauma: Life Improvement for Teens (LIFT). *Psychological services*, *16*, 85-94.	Criteria 2
25.	Cook, J. M., Newman, E., & Simiola, V. (2019). Trauma training: Competencies, initiatives, and resources. *Psychotherapy*, *56*(3), 409-421	Criteria 2
26.	Layne, C. M., Ippen, C. G., Strand, V., Stuber, M., Abramovitz, R., Reyes, G., Jackson, L. A., Ross, L., Curtis, A., Lipscomb, L., & Pynoos, R. (2011). The Core Curriculum on Childhood Trauma: A tool for training a trauma-informed workforce. *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*(3), 243-252	Criteria 2
27.	Wall, C. G., & Musetti, B. (2018). Beyond Teaching English: Embracing a Holistic Approach to Supporting English Learner Students and Their Families. *CATESOL Journal*, *30*(2), 1-18.	Criteria 6
28.	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*, 144-162.	Criteria 4

29.	Crosby, S. D., Howell, P., & Thomas, S. (2018). Social justice education through trauma-informed teaching. *Middle School Journal*, *49*(4), 15-23.	Criteria 4
30.	Berardi, A., & Morton, B. M. (2017). Maximizing Academic Success for Foster Care Students: A Trauma-Informed Approach. *Journal of At-Risk Issues*, *20*, 10-16.	Criteria 4
31.	Post, P. B., Grybush, A. L., Elmadani, A., & Lockhart, C. E. (2020). Fostering resilience in classrooms through child–teacher relationship training. *International Journal of Play Therapy*, *29*, 9-19.	Criteria 5
32.	Perry, D. L., & Daniels, M. L. (2016). Implementing trauma - Informed practices in the school setting: A pilot study. *School Mental Health*, *8*, 177-188.	Criteria 5
33.	Butler, L. D., Carello, J., & Maguin, E. (2017). Trauma, stress, and self-care in clinical training: Predictors of burnout, decline in health status, secondary traumatic stress symptoms, and compassion satisfaction. *Psychological Trauma: Theory, Research, Practice, and Policy*, *9*(4), 416-424.	Criteria 2
34.	Lewis, L. A., Kusmaul, N., Elze, D., & Butler, L. (2016). The role of field education in a university–community partnership aimed at curriculum transformation. *Journal of Social Work Education*, *52*(2), 186-197.	Criteria 4
35.	Anderson, E. M., Blitz, L. V., & Saastamoinen, M. (2015). Exploring a School-University Model for Professional Development with Classroom Staff: Teaching Trauma-Informed Approaches. *School Community Journal*, *25*(2), 113-134.	Criteria 5
36.	Damian, A. J., Mendelson, T., Bowie, J., & Gallo, J. J. (2019). A mixed methods exploratory assessment of the usefulness of Baltimore City Health Department's trauma-informed care training intervention. *American Journal of Orthopsychiatry*, *89*(2), 228-236.	Criteria 2
37.	Hollingsworth, M. A. (2019). Trauma Informed Practice: Increasing Awareness for Pre-Service School Counselors. *European Journal of Educational Sciences*, (Special), 116-129.	Criteria 5
38.	Ford-Paz, R. E., Santiago, C. D., Coyne, C. A., Rivera, C., Guo, S., Rusch, D., St. Jean, N., Hilado, A., & Cicchetti, C. (2019). You're not alone: A public health response to immigrant/refugee distress in the current sociopolitical context. *Psychological services*. Advance	Criteria 5

	Online Publication.	
39.	Everett, A., Sugarman, O., Wennerstrom, A., Pollock, M., True, G., Haywood, C., Meyers, D., Raines, A., Wells, K., Johnson, A., Arevian, A. C., Sato, J., & Springgate, B. (2019). Community-informed strategies to address trauma and enhance resilience in climate-affected communities. *Traumatology*. Advance Online Publication.	Criteria 4
40.	Rawles, P. D. (2010). The Link between Poverty, the Proliferation of Violence and the Development of Traumatic Stress among Urban Youth in the United States to School Violence: A Trauma Informed, Social Justice Approach to School Violence. In *Forum on Public Policy Online* (Vol. 2010, No. 4). Oxford Round Table. 406 West Florida Avenue, Urbana, IL 61801.	Criteria 4
41.	Miron, D., & Scheeringa, M. S. (2019). A statewide training of community clinicians to treat traumatized youths involved with child welfare. *Psychological services*, *16*, 153-161.	Criteria 2
42.	Ezell, J. M., Richardson, M., Salari, S., & Henry, J. A. (2018). Implementing trauma-informed practice in juvenile justice systems: What can courts learn from child welfare interventions?. *Journal of Child & Adolescent Trauma*, *11*(4), 507-519.	Criteria 4
43.	Schiff, D. M., Zuckerman, B., Hutton, E., Genatossio, C., Michelson, C., & Bair-Merritt, M. (2017). Development and pilot implementation of a trauma-informed care curriculum for pediatric residents. *Academic pediatrics*, *17*(7), 794-796.	Criteria 2
44.	Vanderzee, K. L., John, S. G., Edge, N., Pemberton, J. R., & Kramer, T. L. (2017). A preliminary evaluation of the Managing Youth Trauma Effectively program for substance-abusing women and their children. *Infant mental health journal*, *38*(3), 422-433.	Criteria 2
45.	Taylor, L., & Barrett, W. (2018). Developing a trauma-informed approach to closing the poverty-related attainment gap. Educational & Child Psychology, 35(3), 64–75.	Criteria 2
46.	Corr, C., Miller, D., Spence, C., Marshall, A. A., Mott, K., & Kretzer, J. (2019). “It’s never black and white”: Early interventionists’ experiences supporting abused children and their families. Psychological Services, 16, 103–110.	Criteria 4
47.	Hartinger-Saunders, R. M., Jones, A. S., & Rittner, B. (2019).	Criteria 4

	Improving access to trauma-informed adoption services: Applying a developmental trauma framework. *Journal of Child & Adolescent Trauma, 12*(1), 119-130.	
48.	Ashby, B. D., Ehmer, A. C., & Scott, S. M. (2019). Trauma-informed care in a patient-centered medical home for adolescent mothers and their children. *Psychological services, 16,* 67-74.	Criteria 2
49.	Wilson, B., & Nochajski, T. H. (2016). Evaluating the impact of trauma-informed care (TIC) perspective in social work curriculum. *Social Work Education, 35*(5), 589-602.	Criteria 2
50.	Ryan, K., Lane, S. J., & Powers, D. (2017). A multidisciplinary model for treating complex trauma in early childhood. *International Journal of Play Therapy, 26*(2), 111-123.	Criteria 4
51.	Molano, A., Harker, A., & Cristancho, J. C. (2018). Effects of Indirect Exposure to Homicide Events on Children's Mental Health: Evidence from Urban Settings in Colombia. *Journal of youth and adolescence, 47*(10), 2060-2072.	Criteria 2
52.	Steele, W., & Kuban, C. (2011). Trauma-informed resilience and posttraumatic growth (PTG). *Reclaiming Children and Youth, 20*(3), 44-46.	Criteria 4
53.	Branson, C. E., Baetz, C. L., Horwitz, S. M., & Hoagwood, K. E. (2017). Trauma-informed juvenile justice systems: A systematic review of definitions and core components. *Psychological Trauma: Theory, Research, Practice, and Policy, 9*(6), 635-646.	Criteria 4
54.	Conley, A. H., & Griffith, C. (2016). Trauma-informed response in the age of Title IX: Considerations for college counselors working with survivors of power-based personal violence. *Journal of College Counseling, 19*(3), 276-288.	Criteria 4
55.	Harden, T., Kenemore, T., Mann, K., Edwards, M., List, C., & Martinson, K. J. (2015). The Truth N'Trauma Project: Addressing community violence through a youth-led, trauma-informed and restorative framework. *Child and Adolescent Social Work Journal, 32*, 65-79.	Criteria 2
56.	Nicholson, J., Bauer, A., & Woolley, R. (2016). Inserting child-initiated play into an American urban school district after a decade of scripted curricula: Complexities and progress. *American Journal of Play, 8*(2), 228-271.	Criteria 4

57.	Lotzin, A., Buth, S., Sehner, S., Hiller, P., Pawils, S., Metzner, F., Read, J., Härter, M., & Schäfer, I. (2019). Reducing barriers to trauma inquiry in substance use disorder treatment–a cluster-randomized controlled trial. *Substance abuse treatment, prevention, and policy*, *14*, 23.	Criteria 2
58.	Gudiño, O. G., Weis, J. R., Havens, J. F., Biggs, E. A., Diamond, U. N., Marr, M., Jackson, C., & Cloitre, M. (2014). Group trauma-informed treatment for adolescent psychiatric inpatients: A preliminary uncontrolled trial. *Journal of Traumatic Stress*, *27*(4), 496-500.	Criteria 2
59.	Mainwaring, D. J. (2014). Educational psychologists as advocates of children in out of home care: An innovative program model that empowers young people and the adults who support them. *Educational & Child Psychology*, *31*, 101-123.	Criteria 6
60.	Conradi, L., Agosti, J., Tullberg, E., Richardson, L., Langan, H., Ko, S., & Wilson, C. (2011). Promising practices and strategies for using trauma-informed child welfare practice to improve foster care placement stability: a breakthrough series collaborative. *Child Welfare*, *90*(6), 207-225.	Criteria 2
61.	Raman, S., Ruston, S., Irwin, S., Tran, P., Hotton, P., & Thorne, S. (2017). Taking culture seriously: Can we improve the developmental health and well-being of Australian Aboriginal children in out-of-home care?. *Child: care, health and development*, *43*(6), 899-905.	Criteria 2
62.	Tompkins, C. N., & Neale, J. (2018). Delivering trauma-informed treatment in a women-only residential rehabilitation service: Qualitative study. *Drugs: Education, Prevention and Policy*, *25*, 47-55.	Criteria 5
63.	Green, G. (2011). Developing trauma training for an Indigenous community: hopefully not seagulls. *Australian Social Work*, *64*(2), 215-227.	Criteria 2
64.	Griese, B., Burns, M., & Farro, S. A. (2018). Pathfinders: Promoting healthy adjustment in bereaved children and families. *Death studies*, *42*(3), 134-142.	Criteria 4
65.	Stewart, S. L., Leschied, A., Den Dunnen, W., Zalmanowitz, S., & Baiden, P. (2013, April). Treating mental health disorders for	Criteria 4

	children in child welfare care: Evaluating the outcome literature. In *Child & Youth Care Forum* (Vol. 42, No. 2, pp. 131-154). New York: Springer US.	
66.	Pence, D. M. (2011). Trauma-informed forensic child maltreatment investigations. *Child welfare*, *90*(6), 49-68.	Criteria 2
67.	Hummer, V. L., Dollard, N., Robst, J., & Armstrong, M. I. (2010). Innovations in implementation of trauma-informed care practices in youth residential treatment: A curriculum for organizational change. *Child Welfare*, *89*(2), 79-95.	Criteria 5
68.	Sanderson, R. C., Gross, S., Sanon, J. G., & Janairo, R. (2016). Building resilience in children and their communities following disaster in a developing country: responding to the 2010 earthquake in Haiti. *Journal of Child & Adolescent Trauma*, *9*, 31-41.	Criteria 4
69.	Kuban, C. (2013). Curiosity-Driven Interventions Following Crisis. *Reclaiming Children and Youth*, *22*(3), 42-44.	Criteria 4
70.	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.	Criteria 2
71.	Habib, M., Labruna, V., & Newman, J. (2013). Complex histories and complex presentations: Implementation of a manually-guided group treatment for traumatized adolescents. *Journal of Family Violence*, *28*(7), 717-728.	Criteria 2
72.	D'Andrea, W., Bergholz, L., Fortunato, A., & Spinazzola, J. (2013). Play to the whistle: A pilot investigation of a sports-based intervention for traumatized girls in residential treatment. *Journal of family violence*, *28*(7), 739-749.	Criteria 2
73.	Knoverek, A. M., Briggs, E. C., Underwood, L. A., & Hartman, R. L. (2013). Clinical considerations for the treatment of latency age children in residential care. *Journal of Family Violence*, *28*(7), 653-663.	Criteria 4
74.	Brave Heart, M. Y. H., Elkins, J., Tafoya, G., Bird, D., & Salvador, M. (2012). Wicasa Was' aka: Restoring the traditional strength of American Indian boys and men. *American journal of public health*, *102*(S2), S177-S183.	Criteria 2
75.	Williams, J. K., Smith, D. C., An, H., & Hall, J. A. (2008). Clinical	Criteria 2

	outcomes of traumatized youth in adolescent substance abuse treatment: A longitudinal multisite study. *Journal of psychoactive drugs*, *40*(1), 77-84.	
76.	Cook, J. M., & Newman, E. (2014). A consensus statement on trauma mental health: The New Haven Competency Conference process and major findings. *Psychological Trauma: Theory, Research, Practice, and Policy*, *6*(4), 300-307.	Criteria 4
77.	Hoysted, C., Jobson, L., & Alisic, E. (2019). A pilot randomized controlled trial evaluating a web-based training program on pediatric medical traumatic stress and trauma-informed care for emergency department staff. *Psychological services*, *16*, 38-47.	Criteria 2
78.	McGruder, K. (2019). Children Learn What They Live: Addressing Early Childhood Trauma Resulting in Toxic Stress in Schools. *Mid-Western Educational Researcher*, *31*, 117-137.	Criteria 4
79.	Layne, C. M., Greeson, J. K., Ostrowski, S. A., Kim, S., Reading, S., Vivrette, R. L., Briggs, E. C., Fairbank, J. A., & Pynoos, R. S. (2014). Cumulative trauma exposure and high risk behavior in adolescence: Findings from the National Child Traumatic Stress Network Core Data Set. *Psychological Trauma: Theory, Research, Practice, and Policy*, *6*(S1), S40-S49.	Criteria 4
80.	Kinney, A. R., Graham, J. E., & Eakman, A. M. (2019). Factors distinguishing veterans participating in supported education services from veterans on campus: Evidence supporting modifiable intervention targets. *Psychiatric Rehabilitation Journal*. Advance Online Publication.	Criteria 2
81.	Henning, J. A., & Brand, B. L. (2019). Implications of the American Psychological Association's posttraumatic stress disorder treatment guideline for trauma education and training. Psychotherapy, 56(3), 422–430.	Criteria 4
82.	Stenman, K., Christofferson, J., Alderfer, M. A., Pierce, J., Kelly, C., Schifano, E., Klaff, S., Sciolla, J., Deatrick, J., & Kazak, A. E. (2019). Integrating play in trauma-informed care: Multidisciplinary pediatric healthcare provider perspectives. *Psychological services*, *16*, 7-15.	Criteria 2
83.	Unick, G. J., Bassuk, E. L., Richard, M. K., & Paquette, K. (2019). Organizational trauma-informed care: Associations with individual	Criteria 4

	and agency factors. *Psychological services*, *16*(1), 134-142.	
84.	Paiva, A. The Importance of Trauma-Informed Schools for Maltreated Children. *BU Journal of Graduate Studies in Education, 11,* 22-28.	Criteria 4
85.	Bruce, M. M., Kassam-Adams, N., Rogers, M., Anderson, K. M., Sluys, K. P., & Richmond, T. S. (2018). Trauma Providers' Knowledge, Views and Practice of Trauma-Informed Care. *Journal of trauma nursing: the official journal of the Society of Trauma Nurses*, *25*(2), 131-138.	Criteria 2
86.	Kisiel, C., Summersett-Ringgold, F., Weil, L. E., & McClelland, G. (2017). Understanding strengths in relation to complex trauma and mental health symptoms within child welfare. *Journal of child and family studies*, *26*(2), 437-451.	Criteria 4
87.	Bryson, S. A., Gauvin, E., Jamieson, A., Rathgeber, M., Faulkner-Gibson, L., Bell, S., Davidson, J., Russel, J., & Burke, S. (2017). What are effective strategies for implementing trauma-informed care in youth inpatient psychiatric and residential treatment settings? A realist systematic review. *International journal of mental health systems, 11,* 36.	Criteria 4

Appendix 2: Summaries of the studies included in this review

McIntyre, Baker & Overstreet (2019)				
Participants	Intervention	Design	Measures	Outcomes
210 primary and secondary teachers from 6 New Orleans public charter schools – The study sample used was 183 teachers as 27 were removed as 6 did not complete pre-training measures and 21 did not complete post-training measures. All 6 schools had demonstrated preliminary indicators of readiness.	A 2-day Foundational Professional Development training as a tool for enhancing teacher knowledge and acceptability of trauma-informed approaches. The training was developed and delivered by faculty members of the New Orleans Trauma-Informed Schools Learning Collaborative with training structured around the 4 key assumptions of trauma-informed systems outlined by SAMHSA (2014) and from existing resources for creating trauma-informed schools.	The study used a one group pre-test post-test design. Archival data was used in this study.	Demographic information on a number of variables was collected pre-intervention. Participants completed a 14-item multiple choice questionnaire pre- and post-training to assess knowledge of trauma-informed approaches adapted from Brown at al. (2012). Internal consistency adequate pre-training ($\alpha = .82$) and modest post-training ($\alpha = .55$). Participants completed the acceptability and system fit climate scales from the Usage Rating Profile-Intervention Revised (Briesch, Chafouleas, Neugebauer, & Riley-Tillman, 2013). This 29 item measure had 6 subscales (Acceptability, Understanding, Feasibility, Family-School Collaboration, System Climate and System Fit) with all subscales $\alpha \geq .70$ and all validated with over 1,000 teachers of kindergarten through 12th grade. The acceptability and system climate subscales were adapted for the study and both received acceptable internal consistency (acceptability – $\alpha = .85$; system fit – $\alpha = .73$).	A paired samples t test indicated that performance on the knowledge measure immediately following the FPD training significantly increased from pre-training and demonstrated a large effect size ($d = 1.52$); Mastery performance was demonstrated by about 20% of teachers at pre-training and 70% of teachers at post-training. Both pre- and post-training knowledge were significantly correlated with teacher ratings of acceptability. Teacher ratings of acceptability were positively and significantly correlated with system fit. Gender and pre-training knowledge were significant predictors of acceptability - women and people who had higher pre-training scores also had higher acceptability ratings. Teachers' knowledge growth was not associated with acceptability ratings.

				However, teachers' perceptions of system fit predicted acceptability ratings and there was a significant Knowledge Growth and System Fit interaction. Knowledge growth was associated with more favourable acceptability ratings in those systems in which teachers perceived better fit with trauma-informed approaches. Among teachers who perceived less system fit, more knowledge growth was associated with lower acceptability ratings.

Crable, Underwood, Parks-Savage & Maclin (2013)				
Participants	Intervention	Design	Measures	Outcomes
40 female staff direct care staff working with adolescent females admitted to a residential group care facility. 5 of the participants were teachers.	The Gender Specific and Trauma Informed curriculum - 4 hour training which included 8 modules to provide an overview of sexual trauma within the context of cultural competent care. Modules covered what is trauma, risk and protective factors of working with adolescents, trauma informed interventions, overview of trauma reactions, signs and symptoms of trauma, teaching tools for engaging and helping traumatised adolescents, an understanding of how empowerment is instrumental in healing, and tips for creating therapeutic milieus.	A time series factorial design with random allocation of participants to either the experimental or control group and pre- and post-training data collection. Pre-training assessment was administered to both groups prior to the training. Post-training assessment was administered to both groups 45 days after the intervention.	Demographic survey was undertaken pre-intervention to attain information on a number of participant variables. Both groups completed a Survey of Knowledge pre- and post-training which involved a 10-item survey of knowledge relating to working with the target population. This was designed by Panzino (2002) and validity or reliability has not been reported. Both groups completed a Satisfaction Survey pre- and post-training which involved a 10-item satisfaction survey on the training content. This was designed by Vivian (2006) and validity or reliability has not been reported.	No significant differences were found between the pre- and post-training knowledge scores of either group. Improvements were observed in the scores of the experimental group but did not reach significance. No difference was observed between the knowledge scores of the experimental and control groups post-training. Participants in the experimental group reported significantly lower satisfaction with the training post-training compared to pre-training.

Brown, Baker & Wilcox (2012)				
Participants	Intervention	Design	Measures	Outcomes
261 staff from 5 different agencies who worked in child congregate care treatment settings who participated in 12 different groups. Most staff worked in treatment settings for youths with serious emotional or behavioural problems. 15 participants were teachers.	Risking Connection (RC; Saakvitne et al., 2001) Training – A curriculum-based foundational trauma-training programme based on constructivist self-development theory. Two types of training were given: 1) The 3-day basic training which is 16-18 hours long foundational training programme; and 2) The RC TTT (train-the-trainer) which is a 16-18 hour training aimed at teaching the content and skills to deliver RC within an organisation. Both types are initially delivered by RC trainers, with the RC basic then delivered within the organisation by those who received the RC TTT. The amount of RC training and intervention package was different for each agency: A) Only RC Basic training; B) 2 RC Basic trainings and one RC TTT; C) 1 RC Basic and 1 RC TTT as part of a whole-system consultation and implementation package; D) Same as agency C; and E) 1 RC Basic and 1 RC TTT with subsequent RC Basic trainings being rolled out by on staff.	The study used a quasi experimental design with no control groups – All groups received some intervention. The level of training and assessment completed depended on the group. 1) 4 groups completed the knowledge measure pre- and post-RC basic training. 2) 6 groups received the RC Basic from RC trainers and completed the belief measure pre- and post-; 3) 3 groups received the RC Basic from their own staff and completed the belief measure pre- and post- 4) 1 group received both trainings and completed the belief measure pre- for both trainings and post- for RC Basic,	Staff knowledge was assessed using the Risking Connection Curriculum Assessment (Farber et al., 2004) at pre- and post-training. This is is an 11-item multiple-choice measure assessing knowledge of RC concepts taught in the 3-day RC Basic training. Cronbach's α at pre-training =.60; α at post-training = .46. Staff belief was assessed using the Trauma-Informed Belief Measure (Brown & Wilcox, 2010). This is a 19-item Likert scale that assesses how favorable staff beliefs are toward Trauma-Informed Care. Cronbach's α at pre-RC Basic was .79, post-RC Basic was .85, and pre- and post-RC TTT were .81. Staff behaviour was assessed using the Staff Behavior in the Milieu (Brown & Wilcox, 2010) measure. This a 12-item self-report Likert scale that describes direct care staff behaviors thought to be indicative of Trauma Informed Care. Cronbach's α were .84 for administration at the RC Basic and .81 at the RC TTT.	1) Significant improvements were found in the knowledge scores from pre- to post-RC basic training for all 4 groups. 2) & 3) Significant improvements in beliefs towards trauma informed care were found from pre- to post-RC basic for the 6 groups trained by RC trainers and the 3 groups trained by their own staff 4) Significant improvements were observed in staff beliefs from pre- to post-RC basic training and from post-RC basic to pre-RC TTT (even though no formal RC training had been delivered in this period). 5) In both groups there was a significant improvement in belief scores from pre- to post-RC basic training. Both groups also reported a significant improvement in belief scores from pre- to post-RC TTT training. One group reported a significant

		5) 2 groups received both trainings and completed the belief measure pre- and post- for both. 6) All participants who completed the RC basic and RC TTT completed the behaviour measure during the RC basic training and during the TTT as a follow up.	Not all groups completed all measures	improvement from post-RC basic to pre-RC TTT, while one group reported a significant reduction in belief scores during this period. 6) A significant favourable change was reported in self-reported staff behaviour from baseline to follow-up.

Dorado, Martinez, McArthur & Leibovitz (2016)				
Participants	Intervention	Design	Measures	Outcomes
1,243 students attending 4 HEARTS schools – 3 elementary schools and 1 kindergarten through grade 8 school. 175 school personnel who participated in the HEARTS training and/or consultation for each of the 5 years of implementation. Staff consisted of teachers, administrators and members of care teams (such as counsellors and school social workers).	Healthy Environments and Response to Trauma in Schools (HEARTS) Program promotes school success for trauma-impacted students through a whole-school approach utilizing the Response to Intervention multi-tiered framework. Tier 1 involves school-wide universal supports to change school cultures into learning environments which are more safe, supportive, and trauma-informed. Tier 2 involves capacity-building with school staff to facilitate the incorporation of a trauma-informed lens into the development of supports for at-risk students, school-wide concerns, and disciplinary procedures. Tier 3 involves intensive interventions for students suffering from the impact of trauma	A retrospective pre- post-design was utilised	The HEARTS Program Evaluation Survey was completed by school personnel and used to assess 1) school personnel's knowledge about addressing trauma and in the use of trauma-sensitive practices; 2) students' school Engagement; and 3) changes in the number of disciplinary office referrals and suspensions over time. The Child and Adolescent Needs and Strengths (CANS) scale was utilized with HEARTS clients which contains a trauma module designed to assess exposure to potentially traumatic childhood experiences, as well as symptoms related to these experiences. This measure has been reported as reliable (no Cronbach's α score was reported) and psychometrically sound.	Significant improvements from pre- to post-HEARTS program implementation were reported for all 5 measures of knowledge and practice. Significant improvements were reported from pre- to post- in student ability to learn, students' time on task in the classroom, students' time spent in the classroom, and students' school attendance. A 32% decrease in total incidents, and a 43% decrease in incidents involving physical aggression were reported after only 1 year of HEARTS implementation (compared to the year prior to implementation). After 5 years of HEARTS implementation, there was an 87% decrease in total incidents, and an 86% decrease in incidents involving physical aggression (compared to the year prior to HEARTS

				implementation). There was not a significant decrease in out-of-school suspensions after 1 year of HEARTS implementation, but there was a 95% decrease in out-of school suspensions after 5 years of HEARTS implementation compared to the year prior to HEARTS implementation. Significant improvements were found for all five CANS items; a) Adjustment to trauma; b) Affect regulation; c) Intrusions; d) Attachment; e) Dissociations.

Baker, Brown, Wilcox, Verlenden, Black & Grant (2018)				
Participants	Intervention	Design	Measures	Outcomes
116 staff members working in residential treatment facilities, outpatient treatment services, and related fields, who served children and youth. They were mostly female (68%) and ranged in age from 21–66 years old (*M* - 38, *SD* - .11). Half of the participants were direct care staff (i.e., caseworkers, residential care workers), with smaller numbers identifying as other staff (i.e., therapists [10%], nurses [5%], teachers [5%], supervisors [3%], and administrators [3%]).	<u>Intervention One</u> Risking Connection Training (RC; Brown et al., 2012; Saakvitne et al., 2001) – Curriculum-based foundational trauma-training programme based on constructivist self-development theory. RC includes (a) leadership consultation, (b) foundational trauma trainings, and (c) guidance about embedding TIC in the system. <u>Intervention Two</u> Restorative Approach (Wilcox, 2012) is a trauma-informed approach to treatment and behaviour management for congregate care settings based on restorative justice principles, often used in combination with RC. It emphasizes clients doing learning tasks and restorative tasks (e.g., making things right with the harmed party) rather than receiving punitive consequences. RA is a 7-hr supplemental training to RC. The primary goal of RA is to provide helpers with tools that they can use in their work with clients.	Sequential explanatory mixed-methods case study – Longitudinal sequential process of quantitative followed by qualitative. Quantitative – Pre-post study design appropriate for programme evaluation Qualitative – 8 hours participant observations and 10 hours of participant interviews.	**Attitudes favorable to TIC.** Staff completed the Trauma- Informed Care Belief Measure (Brown et al., 2012), a 19-item measure of beliefs favorable to TIC, at pretest, posttest, and follow-up. Items are rated on a 5-point Likert scale and an average score was created. Internal consistency ranged from .79 –.85 in previous evaluations, and validity data indicate that the Trauma- Informed Care Belief Measure detects improvement in staff attitudes after trauma training (Brown et al., 2012). Internal consistency for this sample was good with the exception of the small follow-up subsample (α at pre = .84; α at post = .88; α at follow up = .59). **Vicarious traumatisation (VT).** The Professional Quality of Life Scale (ProQOL; Stamm, 2009) evaluates secondary trauma and is frequently used to measure VT. Specifically, this 30-item measure evaluates the positive construct of compassion satisfaction (i.e., the pleasure derived from being able to do one's work well) and the negative constructs of burnout (i.e.,	**Attitudes about TIC.**RC and RA training statistically significantly improved staff beliefs favorable to TIC from pre-test to post-test. For the smaller subsample of TTTs and Mentors who participated in three waves of data collection, a repeated measures ANOVA confirmed that staff attitudes favorable to TIC statistically significantly changed over time, improving from pre-test to post-test and maintaining at follow-up. **Vicarious traumatization.** Compassion satisfaction showed no significant change from pre-test to post-test, nor across the three time-points within the smaller subsample of TTTs and Mentors. Burnout scores moved in an unfavorable direction from pre-test to post-test. A repeated measures ANOVA failed to confirm this finding with the smaller subsample of TTTs and Mentors. Finally, secondary traumatic stress scores also moved in an unfavourable direction from pre-test to post-test. The repeated measures ANOVA confirmed that secondary traumatic stress increased over the three time-

	Two types of training were given: 1) The 3-day basic training which is 16-18 hours long foundational training programme; and 2) The TTT (train-the-trainer) which is a 16-18 hour training aimed at teaching the content and skills to deliver the training interventions within an organisation. Six Basic trainings occurred, the first conducted by trainers and the remaining conducted by TTTs; trainings were delivered across 2 years until all staff had been trained. Overall, 33% of staff were trained by RC faculty and the remaining 67% were trained by TTTs within the division. The packet was also completed at a third time-point 5.5 months after the RC Basic training by a small subset of the original group of participants (*n* _ 23) who elected to participate in the TTT training to become a TTT or a Mentor.		feelings of hopelessness and difficulties dealing with work) and secondary traumatic stress (i.e., negative effects such as sleep difficulties and intrusive images experienced when working with clients who have trauma histories). The ProQOL was administered at pre-test, post-test, and follow-up. Items are rated on a 5-point Likert scale, and sums were calculated per the ProQOL scoring manual. The final two RC Basic training groups did not complete the ProQOL at post-test because of administrative error; thus, the post-test sample size for this measure is $n = 82$. High scores on the compassion satisfaction and low scores on the burnout and secondary traumatic stress subscales are favorable. The ProQOL is widely used and is associated with strong internal reliability and construct validity (Stamm, 2009). Internal consistency in this sample ranged from acceptable to excellent across time-points (αs = .71–90).	points for TTTs and Mentors. Scores became less favorable from pre-test to post-test and were maintained at follow-up. Qualitative Findings: **Evidence of successful TIC implementation.** Qualitative findings highlighted evidence that the division had fully and successfully adopted the essential elements of TIC. Staff viewed organizational culture change because of TIC as a slow but steady process which was seen as being in line with the values and goals of the division, and was driven in large part by staff training and resultant changes in staff attitudes and behaviors. **Vicarious traumatisation.** 1) The data provided support that higher post-test scores on VT may be because of increased awareness of the problem of VT rather than an actual increase in VT in staff. 2) Found mixed support that participants felt an intense awareness of VT in the short term during the training but felt better in the long run. 3) Findings suggest that the intense experience of learning about VT during training feels

				better for some over the long term, while for others, it is not addressed effectively post-training. **Parallel process in the context of TIC implementation.** Staff noted several parallel processes occurring during TIC implementation, which they thought resulted in better care for clients.

Dublin, Abramovitz, Layne & Katz (2019)				
Participants	Intervention	Design	Measures	Outcomes
2, 293 participants in a variety of organisations (descriptions not given). 74.9% self-identified as mental health professionals: 41.9% as social workers, 18.7% as marriage and family therapists or holding master's degrees in counseling, 10.8% as psychologists, and 3.6% as psychiatrists; 23.8% identified themselves as other types of child- and family-serving staff (e.g., case managers, educators, physicians). Most participants had a significant amount of direct clinical experience (31.8% had >10 years of experience, 20.9% had 5–10 years of experience, and 24.0% had 2–5 years of experience); almost all (87.1%) had direct experience with trauma-exposed children or adolescents.	The Core Curriculum on Childhood Trauma (CCCT), a curriculum that utilizes specially designed case studies and learning tools to apply the 12 Core Concepts to complex real world cases (the 12 Core Concepts for Understanding Traumatic Stress Responses in Children and Families, a framework for understanding the impact of trauma on children and families; Layne, Pynoos, & the Core Curriculum on Childhood Trauma Task Force, 2013). CCCT cases are taught using problem-based learning (PBL), an approach where trained facilitators guide learners (typically in small groups) through a process of structured inquiry including the development and testing of fact-based hypotheses. The PBL process is particularly effective for teaching learners the critical reasoning skills needed to work through complex problems (Dolmans, De Grave, Wolfhagen,	A retrospective pre- post-design was utilised	The National Child Trauma Workforce Institute and the National Center for Child Traumatic Stress (NCCTS) chose to identify eight core child trauma skill areas, based on the 12 Core Concepts and the CCCT's general learning objectives, and developed self-rating questions for each core skill. The evaluation questions were pilot tested by both CCCT facilitators and participants before being finalized. The eight core child trauma skills are: identifying relevant trauma information, understanding the complexity of trauma impacts, using clinical reasoning to process client information, using facts to formulate hypotheses, weighing evidence both for and against hypotheses, using trauma-related concepts to work with care-giving systems, using self-care strategies to reduce secondary trauma, and working effectively with traumatized children and adolescents. In post-training evaluations, participants were asked to rate their skills in each area both before and after the CCCT training using a 5-point numeric scale (1 = *low*, 5 = *high*). The evaluation utilized a retrospective pre-post design instead of separate pre- and post-tests in order to increase accuracy of self-	At least 89.2% of participants gave satisfaction ratings of 4 or 5 to each satisfaction statement. Participant self-ratings of child trauma skills showed statistically significant improvement ($p <\_ .001$) between pre- and post-ratings in the aggregate *trauma skill score*, as well as in all eight individual trauma skill areas. Effect sizes ranged from .78 to 1.45. When changes between pre- and post-aggregate *trauma skill scores* were compared based on discipline, very few statistically significant between-groups changes emerged. Less experienced practitioners had larger pre-post changes for aggregate *trauma skill score*s (*M* change = 10.48) than more experienced practitioners (*M* change = 6.88) out of a possible 32 (raw change score range = -12 to 32; $p <$ .001). This difference may be at least partially

	& van der Vleuten, 2005). CCCT facilitators guide learners in applying their knowledge to case material with the aim of increasing learners' conceptual knowledge of child trauma, case conceptualization skills, and critical reasoning and problem-solving abilities (Layne et al., 2011).		assessment given the possibility of low awareness of the skills prior to participation in the training (Pratt, McGuigan, & Katzeva, 2000). As the eight questions showed high internal consistency for both pre- and post-ratings (Cronbach's alpha pre = .95, post = .91), an aggregate *trauma skill score* was constructed for each participant. The design and delivery of the CCCT trainings was assessed through satisfaction ratings from participants. Participants rated their agreement/ disagreement (on a numerical scale of 1 = *not at all* to 5 = *completely*) with six statements about various aspects of course design and delivery. The six statements also exhibited high internal consistency (Cronbach's alpha of .90); thus, an aggregate *satisfaction score* was created to facilitate subgroup comparisons.	explained by higher baseline aggregate *trauma skill scores* for more experienced practitioners (M = 28.50) versus less experienced practitioners (M = 23.32) out of a possible 40, baseline score range = 3–40 ($p < .001$)

Appendix 3: Framework for Weight of Evidence (Harden & Gough, 2012)

Weight of evidence A	**Weight of evidence B**	**Weight of evidence C**	**Weight of evidence D**
Quality of execution of the study in relation to quality standards for studies of that type (*Methodological Quality*)	Appropriateness of research design for addressing Review Question (*Methodological Relevance*)	Appropriateness of focus of study to Review Question (*Topic Relevance*)	Considering A, B & C to rate the overall degree to which the study contributes in answering the Review Question (*Overall weight of evidence*)

Appendix 4: Weight of Evidence (WoE) criteria

Weight of Evidence A: Methodological Quality (All sections in WoE A were equally weighted out of 3)

1. **Measures**

Characteristic	Score Attributed
Reliability of outcome measures	**1** – Reliable scores are reported for all primary outcome measures **0.5** – Reliability is stated but Cronbach's alpha score is not reported **0** – Reliability of outcome measures is not reported
Validity of measures	**2** – Outcome measures are validated with the target population **1** – Outcome measures are validated with the general population only **0** – Outcome measures are not validated
Measures of key outcomes linked to conceptual model	**1** – Clear links are established between the conceptual model and key outcome indicators **0** – No evidence that key outcomes are linked to the conceptual model

Studies may score a maximum total score of 4 in the measurement section. To allow for equal weighting of all sections in WoE A, total scores in this section were computed so that the maximum score achievable was 3 (Total scores were divided by 4 and multiplied by 3).

2. **Comparison**

Characteristic	Score Attributed
Control Group	**2** – Active Control Group **1** – No Intervention Control Group **0** – No Control Group
Counterbalancing of Change Agents	**1** – Change Agents Counterbalanced **0** – Change Agents Not Counterbalanced
Group Equivalence Established	**1** – Group Equivalence Established **0.5** – Group Equivalence Partially Established **0** – Group Equivalence Not Established
Low Attrition (Less than 20% post or less than 30% for follow-up)	**1** – Low Attrition Observed **0** – Low Attrition Not Observed

Studies may score a maximum total score of 5 in the comparison group/single case design section. To allow for equal weighting of all sections in WoE A, total scores in this section were computed so that the maximum score achievable was 3 (Total scores were divided by 5 and multiplied by 3).

3. Fidelity

Characteristic	Score Attributed
Evidence of Acceptable Adherence	**1** – Evidence of acceptable adherence was demonstrated through means such as ongoing supervision/consultation, coding intervention or audio/video tape implementation **0** – Evidence of acceptable adherence was not demonstrated
Manualisation	**1** – Manualisation was present through formal training or the provision of written materials or the intervention was delivered by the individuals who developed it **0** – Manualisation was not present
Adaptations	If the intervention was adapted but the procedures were either not specified or unknown the study is docked **1** mark.

Studies may score a maximum total score of 2 in the fidelity section. To allow for equal weighting of all sections in WoE A, total scores in this section were computed so that the maximum score achievable was 3 (Total scores were divided by 2 and multiplied by 3).

Ratings from (*Measures + Comparison Group + Fidelity) ÷ 3 = Total WoE A Score*

Weight of Evidence B: Methodological Relevance

Characteristic	Score Attributed
Appropriateness of Research Design	**1** – Quasi Experimental Design with Control Group and Random Allocation **0** – Non-Experimental One Group Pre-Post Design
Control Group	**2** – Active Control Group **1** – No Intervention Control Group **0** – No Control Group
Group Equivalence Established	**1** – Group Equivalence Established **0.5** – Group Equivalence Partially Established **0** – Group Equivalence Not Established
Pre- post- measures taken for all outcome measures for at least 1 group in each intervention type (E.g. at least 1 intervention group and at least one control group etc.)	**1** – Pre- post- measures taken for all outcome measures for at least 1 group in each intervention type **0** – Pre- post- measures were not taken for all outcome measures for at least 1 group in each intervention type
Participants within a group all received the same level of intervention	**1 –** All participants within a group received the same level of intervention **0 –** All participants in a group did not receive the same level of intervention

Studies may score a maximum total score of 6 in WoE B. To allow for equal weighting of WoE A, B & C, total scores in this section were computed so that the maximum score achievable was 3 (Total scores were divided by 6 and multiplied by 3).

Weight of Evidence C: Topic Relevance

Characteristic	Score Attributed
Fidelity of Intervention - Manualisation	**1** – Manualisation was present through formal training or the provision of written materials or the intervention was delivered by the individuals who developed it **0** – Manualisation was not present
Outcome Measures – Target variables were staff self-efficacy, staff knowledge and understanding, staff attitudes/beliefs, and staff perception of their role	**1** – 2 or more target variables were the outcome measures focused on in the study **0** – 1 or no target variables were the outcome measures focused on in the study
Professional Development as sole focus	**2** – Professional development was the sole focus of the study **1** – Professional development and one other focus **0** – Professional development and more than one other focus
Participant Sample	**2** – All participants were education staff **1 –** At least 50% of participants were education staff **0** – Less than 50% of participants were education staff
Intervention Setting	**1** – The intervention took place in a specific educational setting (such as a school) **0** – The intervention did not take place in a specific educational setting (E.g. took place in a residential care setting)
Intervention Content	**2 –** Training intervention consists of professional development in all 3 of trauma and its impact, the core principles/key domains of a trauma-informed approach, and strategies or skills required for trauma-sensitivity **1 –** Training intervention consists of professional development in 2 of trauma and its impact, the core principles/key domains of a trauma-informed approach, and strategies or skills required for trauma-sensitivity **0 –** Training intervention consists of professional development in 1 or none of trauma and its impact, the core principles/key domains of a trauma-informed approach, and strategies or skills required for trauma-sensitivity

Studies may score a maximum total score of 9 in WoE C. To allow for equal weighting of WoE A, B & C, total scores in this section were computed so that the

maximum score achievable was 3 (Total scores were divided by 9 and multiplied by 3).

Ratings from *(WoE A + WoE B + WoE C) ÷ 3 = WoE D*

N.B. Studies that received a score of between 0 and 0.99 were given a rating of 'Low', studies that received a score of between 1 and 1.99 were given a rating of 'Medium' and studies that received a score of between 2 and 3 were given a rating of 'High'.

Appendix 5: Official letter of ethical approval

Mary Immaculate College
Research Ethics Committee
MIREC-4: MIREC Chair Decision Form

APPLICATION NO. A19-015 3rd Amendment 19.11.19

1. PROJECT TITLE

The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)

2. APPLICANT

Name:	Brendan Delaney
Department / Centre / Other:	EPISE
Position:	Postgraduate Researcher

3. DECISION OF MIREC CHAIR

☐	Ethical clearance through MIREC is required.
☐	Ethical clearance through MIREC is not required and therefore the researcher need take no further action in this regard.
✓	Ethical clearance is required and granted. Referral to MIREC is not necessary.
☐	Ethical clearance is required but the full MIREC process is not. Ethical clearance is therefore granted if required for external funding applications and the researcher need take no further action in this regard.
☐	Insufficient information provided by applicant / Amendments required.

4. REASON(S) FOR DECISION

A19-015 – Brendan Delaney – ***The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)***

I have reviewed the changes made to this application since Ethics Approval (in October 2019) was granted, i.e., the addition of a control group, and I believe it satisfies MIREC requirements.

5. DECLARATION (MIREC CHAIR)

Name (Print):	Dr Áine Lawlor
Signature:	Áine Lawlor
Date:	19th November 2019

Appendix 6: Participant information letter (Intervention school)

The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)

Participant Information Letter

What is the project about?

Adverse Childhood Experiences (ACEs) are traumatic or stressful events that occur in the first 18 years of an individual's life. Examples of ACEs include the death of a parent, physical/sexual/emotional abuse, or substance abuse in the household. Recent research has found that ACEs have a significant impact on later life, with more ACEs in childhood causing more serious health issues, both physical and mental, in adulthood. ACEs also have a negative influence on children. This can be seen in the development of coping strategies that are maladaptive, damaged attachment relationships with caregivers and negatively impacted development in areas such as cognition, emotion, behavior and social development (Perry et al., 1995).

Schools may mitigate and reduce the adverse effects of ACEs through the adoption of a whole school, trauma-sensitive approach. While positive evidence for this approach has been reported, a lack of school training resources exists both nationally and internationally. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', a comprehensive training package designed by the American Institutes for Research, under contract from the U.S. Department of Education, to foster trauma-sensitive schools (Guarino & Chagnon, 2018). This package is based on a significant literature base in the areas of trauma, trauma-informed care and implementation science and was released in the U.S. in July 2018 (Guarino and Chagnon, 2018). This package can be seen at https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package.

In this study the first two modules of this training package will be delivered to school teachers and special needs assistants working in your school. Evaluations undertaken before and after the training will then be used to assess the impact of these modules on school staff members' understanding of trauma and their perceptions of teaching and working with students affected by trauma. These two modules represent the sections of the package designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools. Results from your school will be compared to the results from another school which will receive the training after 6 weeks.

Who is undertaking it?

My name is Brendan Delaney and I am currently undertaking the Doctorate in Educational and Child Psychology programme in Mary Immaculate College. The current study will form the thesis element of my doctorate under the supervision of Dr. Claire Griffin-O'Brien and Dr. Maeve Dooley.

Why is it being undertaken?

This study is being undertaken as although schools have been identified as having the power to mitigate and reduce the negative impacts of ACEs, a significant lack of effective training resources for school staff exist to date. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', as outlined above (Guarino & Chagnon, 2018). To date no studies have evaluated the impact of the school staff training modules (module 1: Understanding Trauma and its Impact; and module 2: Building Trauma-Sensitive Schools) of this package on staff members' knowledge and understanding of trauma and their perceptions towards teaching and working with students affected by trauma. Therefore, the goal of this study is to evaluate the impact of modules 1 and 2 on these variables in an Irish context.

What are the benefits and potential risks of this research?
A large number of benefits are present with the current study: 1) Trauma sensitive schools understand the impact of trauma on the developing brain and provide support so that students can thrive in the classroom environment, promote feelings of physical, social, and emotional safety in students and promote effective community communication and collaboration (NASP, 2017; Plumb et al., 2016); 2) Promoting trauma-sensitive school approaches has the greatest potential to positively impact all students, regardless of trauma history; 3) Staff members will be provided with
the principles of trauma-sensitive practices and practical practices they can use in class; 4) This study will add to the research in the area of trauma-sensitive schools training internationally and will help to determine whether the 'Trauma-Sensitive Schools Training Package' is effective in addressing the area of trauma-sensitive schools in an Irish context.

While no direct risks to participants are present in the study, it is possible that memories or thoughts of personal experiences related to ACEs may arise, even though they are not the target of this study. Participants may have been exposed to ACEs themselves, may know of someone affected by ACEs or may have suffered from traumatic experiences similar to ACEs in adulthood. Additionally, it is possible that after staff members receive training in the impact of trauma and building trauma-sensitive schools, they may feel regret in how they previously taught, interacted with or supported students affected by ACEs. Additionally, completing the questionnaires pre- and post-assessment may cause staff members to self-reflect on difficulties they feel when teaching/supporting students.

To minimize this risk you will 1) be informed that your participation in this study is voluntary; 2) be informed and reassured of your right to withdraw from the study at any time with no consequences; 3) be informed that you are under no obligation to discuss sensitive personal information or experiences; 4) be provided with the contact details of a number of professional support services, both public and private (such as Counselling in Primary Care, Samaritans, and South West Counselling services); and 5) Further reading in the area will be provided to you. This will include reading related to ACEs and their impacts on children and adults and reading related to trauma-sensitive schools and trauma-sensitive practices.

Exactly what is involved for the participant (time, location, etc.)
Prior undertaking the training, you will be asked to complete seven short questionnaires which will take approximately 10-15 minutes to complete.

You will engage in four in-person training sessions with the researcher over a four-week period. Each session will be two hours in duration. Training will be undertaken in your school setting or in your local Education Centre. This in-person training will come from the 'Trauma-Sensitive Schools Training Package'. Session 1 will be based on Module 1 of this package (Understanding Trauma and its Impact) and sessions 2-4 will be based on Module 2 (Building Trauma-Sensitive Schools).

After undertaking the four training sessions you will be asked to complete eight short questionnaires, which will take approximately 10-15 minutes to complete. Some participants will also be asked to engage in a short one-on-one interview with the researcher in your school setting. This will be audio-recorded by the researcher, will last approximately 20-30 minutes to complete and will focus on your attitudes towards traumatised students and your future teaching practices.

Right to withdraw
Your anonymity is assured and you are free to withdraw from the study at any time without giving a reason and without consequence.

How will the information be used / disseminated?
The data from all the participants in the study will be combined and used to form the results section of my thesis. Direct quotes from participant's semi-structured interviews may be used in the write-up of the thesis and in subsequent publications/conference presentations. No individual participant

or school will be identifiable.

How will confidentiality be kept?
All information gathered will remain confidential and will not be released to any third party. A random ID number will be generated for each participant and it is this number rather than the participant's name which will be held with their data to maintain anonymity.

What will happen to the data after research has been completed?
In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Contact details:
If at any time you have any queries / issues with regard to this study, my contact details are as follows:
Brendan Delaney; Email: 09006284@micstudent.mic.ul.ie; Telephone: 087 – 2884551

If you have concerns about this study and wish to contact someone independent, you may contact: MIREC Administrator, Research and Graduate School, Mary Immaculate College, South Circular Road, Limerick. Telephone: 061-204980 / E-mail: mirec@mic.ul.ie

Appendix 7: Participant informed consent form (Intervention school)

Dear School Staff Member,

As outlined in the **participant information letter** the current study aims to: 1) deliver the first two modules of the 'Trauma-Sensitive Schools Training Package' to school staff currently teaching in an urban DEIS Band 1 primary school; 2) evaluate the impact on staff members' understanding of trauma and their perceptions of teaching/working with students affected by trauma; and 3) compare the results to a control school (a school that does not receive the intervention at the same time). The results from your school will be compared to a school which will receive the training intervention after 6 weeks. The two training modules represent the sections of the 'Trauma-Sensitive Schools Training Package' designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools.

Details of what is involved in the each section of the study are contained in the **participant information letter**. This information letter should be read fully and carefully before consenting to take part in the study.

Your anonymity is assured and you are free to withdraw from the study at any time. All information gathered will remain confidential and will not be released to any third party. In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Please read the following statements before signing the consent form.

- I have read and understood the **participant information letter.**
- I understand what the project is about, and what the results will be used for.
- I am fully aware of **all** of the procedures involving participants, and of any **risks and benefits** associated with the study.
- I know that my participation is voluntary and that I, or the school principal, can withdraw participation from the project at any stage without giving any reason.
- I am aware that my results will be kept confidential.

Name
(PRINTED):

_____

Name
(Signature):

_____

Date:

_____

Appendix 8: Principal information letter (Intervention school)

The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)

Principal Information Letter

What is the project about?

Adverse Childhood Experiences (ACEs) are traumatic or stressful events that occur in the first 18 years of an individual's life. Examples of ACEs include the death of a parent, physical/sexual/emotional abuse, or substance abuse in the household. Recent research has found that ACEs have a significant impact on later life, with more ACEs in childhood causing more serious health issues, both physical and mental, in adulthood. ACEs also have a negative influence on children. This can be seen in the development of coping strategies that are maladaptive, damaged attachment relationships with caregivers and negatively impacted development in areas such as cognition, emotion, behavior and social development (Perry et al., 1995).

Schools may mitigate and reduce the adverse effects of ACEs through the adoption of a whole school, trauma-sensitive approach. While positive evidence for this approach has been reported, a lack of school training resources exists both nationally and internationally. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', a comprehensive training package designed by the American Institutes for Research, under contract from the U.S. Department of Education, to foster trauma-sensitive schools (Guarino & Chagnon, 2018). This package is based on a significant literature base in the areas of trauma, trauma-informed care and implementation science and was released in the U.S. in July 2018 (Guarino and Chagnon, 2018). This package can be seen at https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package.

In this study the first two modules of this training package will be delivered to school teachers and special needs assistants working in your school. Evaluations undertaken before and after the training will then be used to assess the impact of these modules on school staff members' understanding of trauma and their perceptions of teaching and working with students affected by trauma. These two modules represent the sections of the package designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools. Results from your school will be compared to the results from another school which will receive the training after 6 weeks.

Who is undertaking it?

My name is Brendan Delaney and I am currently undertaking the Doctorate in Educational and Child Psychology programme in Mary Immaculate College. The current study will form the thesis element of my doctorate under the supervision of Dr. Claire Griffin-O'Brien and Dr. Maeve Dooley.

Why is it being undertaken?

This study is being undertaken as although schools have been identified as having the power to mitigate and reduce the negative impacts of ACEs, a significant lack of effective training resources for school staff exist to date. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', as outlined above (Guarino & Chagnon, 2018). To date no studies have evaluated the impact of the school staff training modules (module 1: Understanding Trauma and its Impact; and module 2: Building Trauma-Sensitive Schools) of this package on school staff members' knowledge and understanding of trauma and their perceptions towards teaching and working with students affected by trauma. Therefore, the goal of this study is to evaluate the impact of modules 1 and 2 on these variables in an Irish context.

What are the benefits and potential risks of this research?
A large number of benefits are present with the current study: 1) Trauma sensitive schools understand the impact of trauma on the developing brain and provide support so that students can thrive in the classroom environment, promote feelings of physical, social, and emotional safety in students and promote effective community communication and collaboration (NASP, 2017; Plumb et al., 2016); 2) Promoting trauma-sensitive school approaches has the greatest potential to positively impact all students, regardless of trauma history; 3) School staff will be provided with the principles of trauma-sensitive practices and practical practices they can use in class; 4) This study will add to the research in the area of trauma-sensitive schools training internationally and will help to determine whether the 'Trauma-Sensitive Schools Training Package' is effective in addressing the area of trauma-sensitive schools in an Irish context.

While no direct risks to participants are present in the study, it is possible that memories or thoughts of personal experiences related to ACEs may arise, even though they are not the target of this study. Participants may have been exposed to ACEs themselves, may know of someone affected by ACEs or may have suffered from traumatic experiences similar to ACEs in adulthood. Additionally, it is possible that after staff members receive training in the impact of trauma and building trauma-sensitive schools, they may feel regret in how they previously taught, interacted with or supported students affected by ACEs. Additionally, completing the questionnaires pre- and post-assessment may cause staff members to self-reflect on difficulties they feel when teaching/supporting students.

To minimize risk participants will 1) be informed their participation in this study is voluntary; 2) be informed and reassured of their right to withdraw from the study at any time with no consequences; 3) be informed that they are under no obligation to discuss sensitive personal information or experiences; 4) be provided with the contact details of a number of professional support services, both public and private (such as Counselling in Primary Care, Samaritans, and South West Counselling services); 5) Further reading in the area will be provided to participants - reading related to ACEs and their impacts on children and adults and reading related to trauma-sensitive schools and trauma-sensitive practices.

Exactly what is involved for the participant (time, location, etc.)
Prior undertaking the training, participants will be asked to complete seven short questionnaires which will take approximately 10-15 minutes to complete.

Participants will engage in four in-person training sessions with the researcher over a four-week period. Each session will be two hours in duration. Training will be undertaken in the participant's school setting or the participant's local Education Centre. This in-person training will come from the 'Trauma-Sensitive Schools Training Package'. Session 1 will be based on Module 1 of this package (Understanding Trauma and its Impact) and sessions 2-4 will be based on Module 2 (Building Trauma-Sensitive Schools).

After undertaking the four training sessions participants will be asked to complete eight short questionnaires, which will take approximately 10-15 minutes to complete. Some participants will also be asked to engage in a short one-on-one interview with the researcher in their school setting. This will be audio-recorded by the researcher, will last approximately 20-30 minutes to complete and will focus on participant's attitudes towards traumatised students and their future teaching practices.

Right to withdraw
Participants' anonymity is assured and they are free to withdraw from the study at any time without giving a reason and without consequence.

How will the information be used / disseminated?
The data from all the participants in the study will be combined and used to form the results section of my thesis. Direct quotes from participant's semi-structured interviews may be used in the write-up of the thesis and in subsequent publications/conference presentations. No individual participant

or school will be identifiable.

How will confidentiality be kept?
All information gathered will remain confidential and will not be released to any third party. A random ID number will be generated for each participant and it is this number rather than the participant's name which will be held with their data to maintain anonymity.

What will happen to the data after research has been completed?
In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Contact details:
If at any time you have any queries / issues with regard to this study, my contact details are as follows:
Brendan Delaney; Email: 09006284@micstudent.mic.ul.ie; Telephone: 087 – 2884551
If you have concerns about this study and wish to contact someone independent, you may contact: MIREC Administrator, Research and Graduate School, Mary Immaculate College, South Circular Road, Limerick. Telephone: 061-204980 / E-mail: mirec@mic.ul.ie

Appendix 9: Principal informed consent form (Intervention school)

Dear Principal,

As outlined in the **principal information letter** the current study aims to: 1) deliver the first two modules of the 'Trauma-Sensitive Schools Training Package' to school staff currently teaching in an urban DEIS Band 1 primary school; 2) evaluate the impact on staff members' understanding of trauma and their perceptions of teaching/working with students affected by trauma; and 3) compare the results to a control school (a school that does not receive the intervention at the same time). The results from your school will be compared to a school which will receive the training intervention after 6 weeks. The two training modules represent the sections of the 'Trauma-Sensitive Schools Training Package' designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools.

Details of what is involved in the each section of the study are contained in the **principal information letter**. This information letter should be read fully and carefully before consenting to take part in the study.

The anonymity of your school is assured and your school, or any individual participant, is free to withdraw from the study at any time. All information gathered will remain confidential and will not be released to any third party. In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely.

Please read the following statements before signing the consent form.

- I have read and understood the **principal information letter.**
- I understand what the project is about, and what the results will be used for.
- I am fully aware of **all** of the procedures involving participants, and of any **risks and benefits** associated with the study.
- I know that my school's participation is voluntary and that I, or the participants, can withdraw participation from the project at any stage without giving any reason.
- I am aware that my results will be kept confidential.

Name
(PRINTED):
_____

Name
(Signature):
_____

Date:
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Appendix 10: Participant information letter (Control school)

The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)

Participant Information Letter

What is the project about?

Adverse Childhood Experiences (ACEs) are traumatic or stressful events that occur in the first 18 years of an individual's life. Examples of ACEs include the death of a parent, physical/sexual/emotional abuse, or substance abuse in the household. Recent research has found that ACEs have a significant impact on later life, with more ACEs in childhood causing more serious health issues, both physical and mental, in adulthood. ACEs also have a negative influence on children. This can be seen in the development of coping strategies that are maladaptive, damaged attachment relationships with caregivers and negatively impacted development in areas such as cognition, emotion, behavior and social development (Perry et al., 1995).

Schools may mitigate and reduce the adverse effects of ACEs through the adoption of a whole school, trauma-sensitive approach. While positive evidence for this approach has been reported, a lack of school training resources exists both nationally and internationally. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', a comprehensive training package designed by the American Institutes for Research, under contract from the U.S. Department of Education, to foster trauma-sensitive schools (Guarino & Chagnon, 2018). This package is based on a significant literature base in the areas of trauma, trauma-informed care and implementation science and was released in the U.S. in July 2018 (Guarino and Chagnon, 2018). This package can be seen at https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package.

In this study the first two modules of this training package will be delivered to school teachers and special needs assistants working in one school. Evaluations undertaken before and after the training will then be used to assess the impact of these modules on school staff members' understanding of trauma and their perceptions of teaching and working with students affected by trauma. These two modules represent the sections of the package designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools. Results from this school will be compared to the results from your school and you will be offered the training intervention after 6 weeks.

Who is undertaking it?

My name is Brendan Delaney and I am currently undertaking the Doctorate in Educational and Child Psychology programme in Mary Immaculate College. The current study will form the thesis element of my doctorate under the supervision of Dr. Claire Griffin-O'Brien and Dr. Maeve Dooley.

Why is it being undertaken?

This study is being undertaken as although schools have been identified as having the power to mitigate and reduce the negative impacts of ACEs, a significant lack of effective training resources for school staff exist to date. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', as outlined above (Guarino & Chagnon, 2018). To date no studies have evaluated the impact of the school staff training modules (module 1: Understanding Trauma and its Impact; and module 2: Building Trauma-Sensitive Schools) of this package on staff members' knowledge and understanding of trauma and their perceptions towards teaching and working with students

affected by trauma. Therefore, the goal of this study is to evaluate the impact of modules 1 and 2 on these variables in an Irish context.

What are the benefits and potential risks of this research?
A large number of benefits are present with the current study: 1) Trauma sensitive schools understand the impact of trauma on the developing brain and provide support so that students can thrive in the classroom environment, promote feelings of physical, social, and emotional safety in students and promote effective community communication and collaboration (NASP, 2017; Plumb et al., 2016); 2) Promoting trauma-sensitive school approaches has the greatest potential to positively impact all students, regardless of trauma history; 3) Staff members will be provided with
the principles of trauma-sensitive practices and practical practices they can use in class; 4) This study will add to the research in the area of trauma-sensitive schools training internationally and will help to determine whether the 'Trauma-Sensitive Schools Training Package' is effective in addressing the area of trauma-sensitive schools in an Irish context.

While no direct risks to participants are present in the study, it is possible that memories or thoughts of personal experiences related to ACEs may arise, even though they are not the target of this study. Participants may have been exposed to ACEs themselves, may know of someone affected by ACEs or may have suffered from traumatic experiences similar to ACEs in adulthood. Additionally, it is possible that after staff members receive training in the impact of trauma and building trauma-sensitive schools, they may feel regret in how they previously taught, interacted with or supported students affected by ACEs. Additionally, completing the questionnaires pre- and post-assessment may cause staff members to self-reflect on difficulties they feel when teaching/supporting students.

To minimize this risk you will 1) be informed that your participation in this study is voluntary; 2) be informed and reassured of your right to withdraw from the study at any time with no consequences; 3) be informed that you are under no obligation to discuss sensitive personal information or experiences; 4) be provided with the contact details of a number of professional support services, both public and private (such as Counselling in Primary Care, Samaritans, and South West Counselling services); and 5) Further reading in the area will be provided to you. This will include reading related to ACEs and their impacts on children and adults and reading related to trauma-sensitive schools and trauma-sensitive practices.

Exactly what is involved for the participant (time, location, etc.)
Participants will be asked to complete seven short questionnaires which will take approximately 10-15 minutes to complete.

After 6 weeks participants will be asked to complete another seven short questionnaires which will again take approximately 10-15 minutes to complete.

Your school will then be offered training in modules 1 and 2 of the 'Trauma-Sensitive Schools Training Package' as described above. This training involves four in-person training sessions with the researcher over a four-week period. Each session will be two hours in duration. Training will be undertaken in the participant's school setting or the participant's local Education Centre.

Right to withdraw
Your anonymity is assured and you are free to withdraw from the study at any time without giving a reason and without consequence.

How will the information be used / disseminated?
The data from all the participants in the study will be combined and used to form the results section of my thesis.

How will confidentiality be kept?
All information gathered will remain confidential and will not be released to any third party. A random ID number will be generated for each participant and it is this number rather than the participant's name which will be held with their data to maintain anonymity.

What will happen to the data after research has been completed?
In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Contact details:
If at any time you have any queries / issues with regard to this study, my contact details are as follows:
Brendan Delaney; Email: 09006284@micstudent.mic.ul.ie; Telephone: 087 – 2884551

If you have concerns about this study and wish to contact someone independent, you may contact: MIREC Administrator, Research and Graduate School, Mary Immaculate College, South Circular Road, Limerick. Telephone: 061-204980 / E-mail: mirec@mic.ul.ie

Appendix 11: Participant informed consent form (Control school)

Dear School Staff Member,

As outlined in the **participant information letter** the current study aims to: 1) deliver the first two modules of the 'Trauma-Sensitive Schools Training Package' to school staff currently teaching in an urban DEIS Band 1 primary school; 2) evaluate the impact on staff members' understanding of trauma and their perceptions of teaching/working with students affected by trauma; and 3) compare the results to a control school (a school that does not receive the intervention at the same time). The results from the school which receives the intervention first will be compared to the results from your school. After 6 weeks your school will be offered the training. The two training modules represent the sections of the 'Trauma-Sensitive Schools Training Package' designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools.

Details of what is involved in the each section of the study are contained in the **participant information letter**. This information letter should be read fully and carefully before consenting to take part in the study.

Your anonymity is assured and you are free to withdraw from the study at any time. All information gathered will remain confidential and will not be released to any third party. In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Please read the following statements before signing the consent form.

- I have read and understood the **participant information letter.**
- I understand what the project is about, and what the results will be used for.
- I am fully aware of **all** of the procedures involving participants, and of any **risks and benefits** associated with the study.
- I know that my participation is voluntary and that I, or the school principal, can withdraw participation from the project at any stage without giving any reason.
- I am aware that my results will be kept confidential.

Name
(PRINTED):

_____

Name
(Signature):

_____

Date:

_____

Appendix 12: Principal information letter (Control school)

The Impact of Trauma-Sensitive Schools Training on School Staff Members' Ability to Respond to Adverse Childhood Experiences (ACEs)

Principal Information Letter

What is the project about?

Adverse Childhood Experiences (ACEs) are traumatic or stressful events that occur in the first 18 years of an individual's life. Examples of ACEs include the death of a parent, physical/sexual/emotional abuse, or substance abuse in the household. Recent research has found that ACEs have a significant impact on later life, with more ACEs in childhood causing more serious health issues, both physical and mental, in adulthood. ACEs also have a negative influence on children. This can be seen in the development of coping strategies that are maladaptive, damaged attachment relationships with caregivers and negatively impacted development in areas such as cognition, emotion, behavior and social development (Perry et al., 1995).

Schools may mitigate and reduce the adverse effects of ACEs through the adoption of a whole school, trauma-sensitive approach. While positive evidence for this approach has been reported, a lack of school training resources exists both nationally and internationally. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', a comprehensive training package designed by the American Institutes for Research, under contract from the U.S. Department of Education, to foster trauma-sensitive schools (Guarino & Chagnon, 2018). This package is based on a significant literature base in the areas of trauma, trauma-informed care and implementation science and was released in the U.S. in July 2018 (Guarino and Chagnon, 2018). This package can be seen at https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package.

In this study the first two modules of this training package will be delivered to school teachers and special needs assistants working in one school. Evaluations undertaken before and after the training will then be used to assess the impact of these modules on school staff members' understanding of trauma and their perceptions of teaching and working with students affected by trauma. These two modules represent the sections of the package designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools. Results from this school will be compared to the results from your school and you will be offered the training intervention after 6 weeks.

Who is undertaking it?

My name is Brendan Delaney and I am currently undertaking the Doctorate in Educational and Child Psychology programme in Mary Immaculate College. The current study will form the thesis element of my doctorate under the supervision of Dr. Claire Griffin-O'Brien and Dr. Maeve Dooley.

Why is it being undertaken?

This study is being undertaken as although schools have been identified as having the power to mitigate and reduce the negative impacts of ACEs, a significant lack of effective training resources for school staff exist to date. This void has recently been addressed by the 'Trauma-Sensitive Schools Training Package', as outlined above (Guarino & Chagnon, 2018). To date no studies have evaluated the impact of the school staff training modules (module 1: Understanding Trauma and its Impact; and module 2: Building Trauma-Sensitive Schools) of this package on school staff members'

knowledge and understanding of trauma and their perceptions towards teaching and working with students affected by trauma. Therefore, the goal of this study is to evaluate the impact of modules 1 and 2 on these variables in an Irish context.

What are the benefits and potential risks of this research?
A large number of benefits are present with the current study: 1) Trauma sensitive schools understand the impact of trauma on the developing brain and provide support so that students can thrive in the classroom environment, promote feelings of physical, social, and emotional safety in students and promote effective community communication and collaboration (NASP, 2017; Plumb et al., 2016); 2) Promoting trauma-sensitive school approaches has the greatest potential to positively impact all students, regardless of trauma history; 3) School staff will be provided with the principles of trauma-sensitive practices and practical practices they can use in class; 4) This study will add to the research in the area of trauma-sensitive schools training internationally and will help to determine whether the 'Trauma-Sensitive Schools Training Package' is effective in addressing the area of trauma-sensitive schools in an Irish context.

While no direct risks to participants are present in the study, it is possible that memories or thoughts of personal experiences related to ACEs may arise, even though they are not the target of this study. Participants may have been exposed to ACEs themselves, may know of someone affected by ACEs or may have suffered from traumatic experiences similar to ACEs in adulthood. Additionally, it is possible that after staff members receive training in the impact of trauma and building trauma-sensitive schools, they may feel regret in how they previously taught, interacted with or supported students affected by ACEs. Additionally, completing the questionnaires pre- and post-assessment may cause staff members to self-reflect on difficulties they feel when teaching/supporting students.

To minimize risk participants will 1) be informed their participation in this study is voluntary; 2) be informed and reassured of their right to withdraw from the study at any time with no consequences; 3) be informed that they are under no obligation to discuss sensitive personal information or experiences; 4) be provided with the contact details of a number of professional support services, both public and private (such as Counselling in Primary Care, Samaritans, and South West Counselling services); 5) Further reading in the area will be provided to participants - reading related to ACEs and their impacts on children and adults and reading related to trauma-sensitive schools and trauma-sensitive practices.

Exactly what is involved for the participant (time, location, etc.)
Participants will be asked to complete seven short questionnaires which will take approximately 10-15 minutes to complete.

After 6 weeks participants will be asked to complete another seven short questionnaires which will again take approximately 10-15 minutes to complete.

Your school will then be offered training in modules 1 and 2 of the 'Trauma-Sensitive Schools Training Package' as described above. This training involves four in-person training sessions with the researcher over a four-week period. Each session will be two hours in duration. Training will be undertaken in the participant's school setting or the participant's local Education Centre.

Right to withdraw
Participants' anonymity is assured and they are free to withdraw from the study at any time without giving a reason and without consequence.

How will the information be used / disseminated?
The data from all the participants in the study will be combined and used to form the results section of my thesis.

How will confidentiality be kept?
All information gathered will remain confidential and will not be released to any third party. A random ID number will be generated for each participant and it is this number rather than the participant's name which will be held with their data to maintain anonymity.

What will happen to the data after research has been completed?
In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely

Contact details:
If at any time you have any queries / issues with regard to this study, my contact details are as follows:
Brendan Delaney; Email: 09006284@micstudent.mic.ul.ie; Telephone: 087 – 2884551

If you have concerns about this study and wish to contact someone independent, you may contact: MIREC Administrator, Research and Graduate School, Mary Immaculate College, South Circular Road, Limerick. Telephone: 061-204980 / E-mail: mirec@mic.ul.ie

Appendix 13: Principal informed consent form (Control school)

Dear Principal,

As outlined in the **principal information letter** the current study aims to: 1) deliver the first two modules of the 'Trauma-Sensitive Schools Training Package' to school staff currently teaching in an urban DEIS Band 1 primary school; 2) evaluate the impact on staff members' understanding of trauma and their perceptions of teaching/working with students affected by trauma; and 3) compare the results to a control school (a school that does not receive the intervention at the same time). The results from the school which receives the intervention first will be compared to the results from your school. After 6 weeks your school will be offered the training. The two training modules represent the sections of the 'Trauma-Sensitive Schools Training Package' designed to be delivered to all school staff working in a school and focus on understanding trauma and its impact and building trauma-sensitive schools.

Details of what is involved in the each section of the study are contained in the **principal information letter**. This information letter should be read fully and carefully before consenting to take part in the study.

The anonymity of your school is assured and your school, or any individual participant, is free to withdraw from the study at any time. All information gathered will remain confidential and will not be released to any third party. In accordance with the MIC Record Retention Schedule, anonymized data may be retained indefinitely.

Please read the following statements before signing the consent form.

- I have read and understood the **principal information letter.**
- I understand what the project is about, and what the results will be used for.
- I am fully aware of **all** of the procedures involving participants, and of any **risks and benefits** associated with the study.
- I know that my school's participation is voluntary and that I, or the participants, can withdraw participation from the project at any stage without giving any reason.
- I am aware that my results will be kept confidential.

Name
(PRINTED):

_____

Name
(Signature):

_____

Date:

_____

Appendix 14: Quantitative assessments employed at pre- & post-assessment

KUTIA – Knowledge and Understanding of Trauma and its Impact Assessment (Adapted from Dorado et al., 2016)

	Poor	Below Average	Average	Above Average	Excellent
My knowledge about trauma and its effects on children					
My understanding about how to help traumatized children learn in school					
My knowledge about trauma-sensitive practices					
My knowledge about burnout and vicarious traumatisation					

Teaching Traumatized Students Scale (TTS; Crosby et al., 2016) – Teacher Version

Please circle the most appropriate number.		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Rewarding students helps change problematic behavior	1	2	3	4	5
2.	I am aware of the effects of trauma on the behavior of students in my classroom	1	2	3	4	5
3.	I consider my students' experiences with trauma as I design strategies to engage students in learning	1	2	3	4	5
4.	I can identify traumatic responses in students	1	2	3	4	5
5.	I am aware of aspects of the school environment that may trigger trauma reactions in students	1	2	3	4	5
6.	I know how to handle difficult behavior related to traumatic reactions in students	1	2	3	4	5
7.	I understand how the brain is affected by trauma	1	2	3	4	5
8.	I am mindful on how my verbal expressions (tone, language, sarcasm) impact a traumatized child	1	2	3	4	5
9.	I am mindful of the way my body language and non-verbal expression impact a traumatized child	1	2	3	4	5

Teaching Traumatized Students Scale (TTS; Crosby et al., 2016) – SNA Version

Please circle the most appropriate number.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Rewarding students helps change problematic behavior	1	2	3	4	5
2. I am aware of the effects of trauma on the behavior of students in my classroom	1	2	3	4	5
3. I consider my students' experiences with trauma as I implement strategies to engage students in learning	1	2	3	4	5
4. I can identify traumatic responses in students	1	2	3	4	5
5. I am aware of aspects of the school environment that may trigger trauma reactions in students	1	2	3	4	5
6. I know how to handle difficult behavior related to traumatic reactions in students	1	2	3	4	5
7. I understand how the brain is affected by trauma	1	2	3	4	5
8. I am mindful on how my verbal expressions (tone, language, sarcasm) impact a traumatized child	1	2	3	4	5
9. I am mindful of the way my body language and non-verbal expression impact a traumatized child	1	2	3	4	5

Attitudes Related to Trauma-Informed Care – 10 Item Short Form (ARTIC-10; Baker, Brown, Wilcox, Overstreet, & Arora, 2016)

ARTIC *Attitudes Related to Trauma-Informed Care Scale*
VERSION: ARTIC-10 EDUCATION

TRAUMATIC STRESS INSTITUTE

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	○	●	○	○	○	○	○	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 could act better if they really wanted to.	○	○	○	○	○	○	○	Students are doing the best they can with the skills they have.
2	Focusing on developing healthy, healing relationships is the best approach when working with people with trauma histories.	○	○	○	○	○	○	○	Rules and consequences are the best approach when working with people with trauma histories.
3	If students say or do disrespectful things to me, it makes me look like a fool in front of others.	○	○	○	○	○	○	○	If students say or do disrespectful things to me, it doesn't reflect badly on me.
4	The ups and downs are part of the work so I don't take it personally.	○	○	○	○	○	○	○	The unpredictability and intensity of work makes me think I'm not fit for this job.
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.	○	○	○	○	○	○	○	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	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.	○	○	○	○	○	○	○	Students do the right thing one day but not the next. This shows that they could control their behavior if they really wanted to.
7	Students need to experience real life consequences in order to function in the real world.	○	○	○	○	○	○	○	Students need to experience healing relationships in order to function in the real world.
8	I realize that students may not be able to apologize to me after they act out.	○	○	○	○	○	○	○	If students don't apologize to me after they act out, I look like a fool in front of others.
9	I feel able to do my best each day to help my students.	○	○	○	○	○	○	○	I'm just not up to helping my students anymore.
10	The most effective helpers find ways to toughen up – to screen out the pain – and not care so much about the work.	○	○	○	○	○	○	○	The most effective helpers allow themselves to be affected by the work – to feel and manage the pain – and to keep caring about the work.

Thank you for your participation.

1

ARTIC-35 Item Form – Self-Efficacy Subscale (Baker et al., 2016)

ARTIC | *Attitudes Related to Trauma-Informed Care Scale*
VERSION: ARTIC-35 EDUCATION

TRAUMATIC STRESS INSTITUTE

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	○	●	○	○	○	○	○	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	
I don't have what it takes to help my students.	○	○	○	○	○	○	○	I have what it takes to help my students.
I have the skills to help my students.	○	○	○	○	○	○	○	I do not have the skills to help my students.
Each day is uniquely stressful in this job.	○	○	○	○	○	○	○	Each day is new and interesting in this job.
The ups and downs are part of the work so I don't take it personally.	○	○	○	○	○	○	○	The unpredictability and intensity of work makes me think I'm not fit for this job.
I dread going to my job because it's just too hard and intense.	○	○	○	○	○	○	○	Even when my job is hard and intense, I know it's part of the work and it's ok.
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.

Thank you for your participation.

Teacher's Sense of Efficacy Scale – Short Form (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) – Teacher Version

Teacher Beliefs

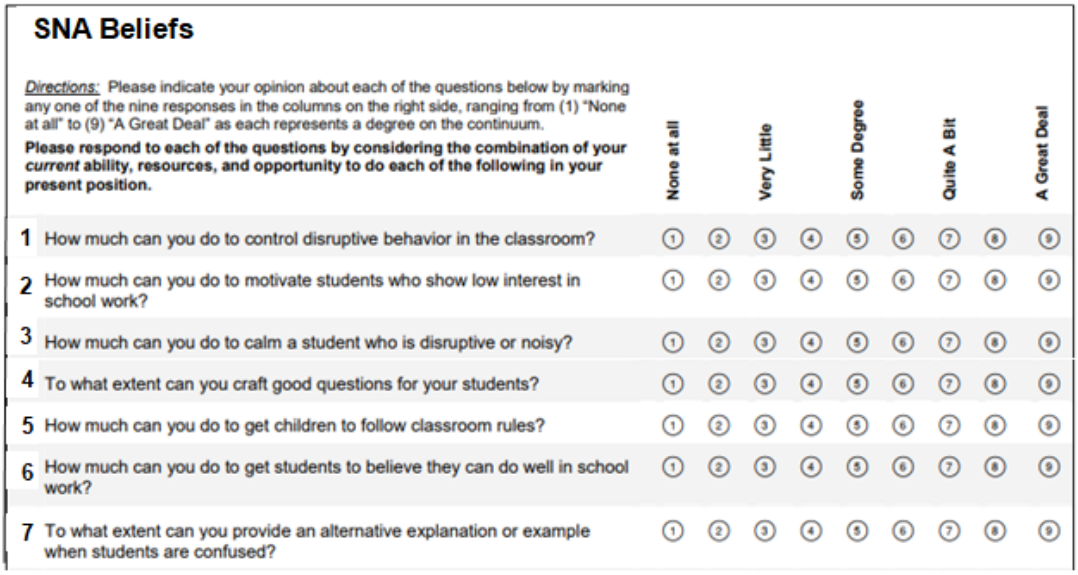
This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.

	None at all		Very Little		Some Degree		Quite A Bit		A Great Deal
1. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. To what extent can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How well can you implement alternative teaching strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Teacher's Sense of Efficacy Scale – Short Form (TSES; Tschannen-Moran & Woolfolk Hoy, 2001) – Teacher Version



SNA Beliefs

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.

		None at all		Very Little		Some Degree		Quite A Bit		A Great Deal
1	How much can you do to control disruptive behavior in the classroom?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
2	How much can you do to motivate students who show low interest in school work?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
3	How much can you do to calm a student who is disruptive or noisy?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
4	To what extent can you craft good questions for your students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
5	How much can you do to get children to follow classroom rules?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
6	How much can you do to get students to believe they can do well in school work?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
7	To what extent can you provide an alternative explanation or example when students are confused?	①	②	③	④	⑤	⑥	⑦	⑧	⑨

Staff Perception of Role Survey (Adapted from Reker, 2016) – Teacher Version

Please indicate your role in the school: _____

Please tick the box you believe is most appropriate

Please indicate the degree to which you agree or disagree with the following

- **I believe it is part of my role to respond to the <u>academic</u> needs of students affected by trauma**

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

- **I believe it is part of my role to respond to the <u>emotional</u> needs of students affected by trauma**

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

- **I believe it is part of my role to respond to the <u>behavioural</u> needs of students affected by trauma**

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

- **I believe it is important for all staff members to take an active role in supporting students affected by trauma**

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*

Is there anything important to you about your role in supporting students affected by trauma that has not been asked? If so, please use the space below

_____

_____

_____

Staff Perception of Role Survey (Adapted from Reker, 2016) – SNA Version

Please indicate your role in the school: _____

Please tick the box you believe is most appropriate

Please indicate the degree to which you agree or disagree with the following

- **I believe it is part of my role to respond to the <u>emotional</u> needs of students affected by trauma**

Strongly Disagree	***Disagree***	***Neutral***	***Agree***	***Strongly Agree***

- **I believe it is part of my role to respond to the <u>behavioural</u> needs of students affected by trauma**

Strongly Disagree	***Disagree***	***Neutral***	***Agree***	***Strongly Agree***

- **I believe it is important for all staff members to take an active role in supporting students affected by trauma**

Strongly Disagree	***Disagree***	***Neutral***	***Agree***	***Strongly Agree***

Is there anything important to you about your role in supporting students affected by trauma that has not been asked? If so, please use the space below

_____

_____

_____

Appendix 15: Training Evaluation Survey – Teacher & SNA use

Having attending this training please rate how likely you are to implement what you have learned with pupils in your school on a scale of 1-10? *Please tick the appropriate box*

1 Extremely Unlikely	2	3	4	5 Unsure	6	7	8	9	10 Extremely Likely

Please rate how committed are you to implementing what you have learned with pupils in your school on a scale of 1-10?
Please tick the appropriate box

1 Not committed at all	2	3	4	5 Neutral	6	7	8	9	10 Extremely Committed

Is there anything important to you about implementing what you have learned that has not been asked? If so, please use the blank space below.

_____

_____

_____

_____

Appendix 16: Qualitative data – Initial codes (Teachers)

- Valuable & beneficial professional development intervention
- Realise/Reaffirm what staff were already doing prior to training
- Misdiagnosis of trauma as something else
- Challenges in school to responding
- Creating supportive environments
- Teaching other areas (such as emotional regulation)
- Barriers to implementation
- Need more resources to support content implementation (such as vignettes and further discussions)
- More strategies to support staff to cope with responding to trauma
- Improvements noted as result of training
- Confidentiality in responding
- Impact of responding to trauma on staff
- Importance of staff receiving their own support
- Whole-school/team approach to responding
- Ability to take a step back and rethink what may be happening (potential of trauma)
- First port of call role in responding
- Supportive role/Advocate for the child
- Limits of role in responding (when to refer on etc.)
- Need to support students affected by trauma
- Trusting relationships with the child
- Need to be able to talk about trauma openly
- Importance of trauma-sensitive practices

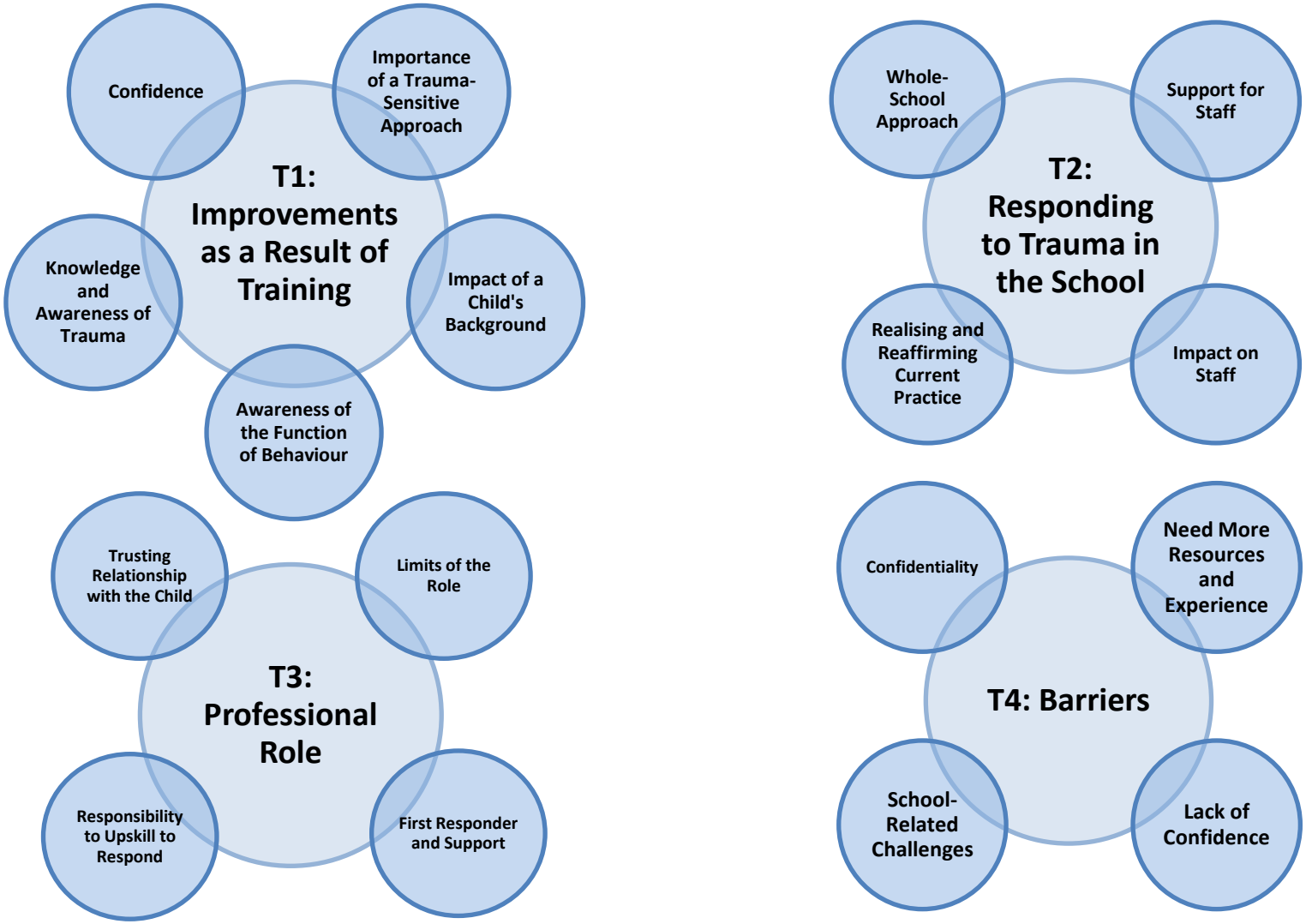
- Awareness of background and home life of the child (environmental factors)
- Impact of experience on responding
- All teachers need to have training information
- Need support from family and other agencies
- Difficulty knowing if behaviour is trauma or misbehaviour
- Lack of confidence in certain areas linked to responding
- Role of the teacher in responding
- Identifying triggers/seeing reasons behind behaviour
- Seeing examples of children to use the strategies with in their class
- Package needs to reflect the Irish context
- Feel they have to assume role of professionals at times (such as psychologist etc.)
- Personal responsibility to up skill to be able to respond
- Not assuming or judging the effect of trauma on a person
- Experiencing trauma can effect different people in different ways and lead to different reactions and recoveries

Appendix 17: Qualitative data – Initial codes (SNAs)

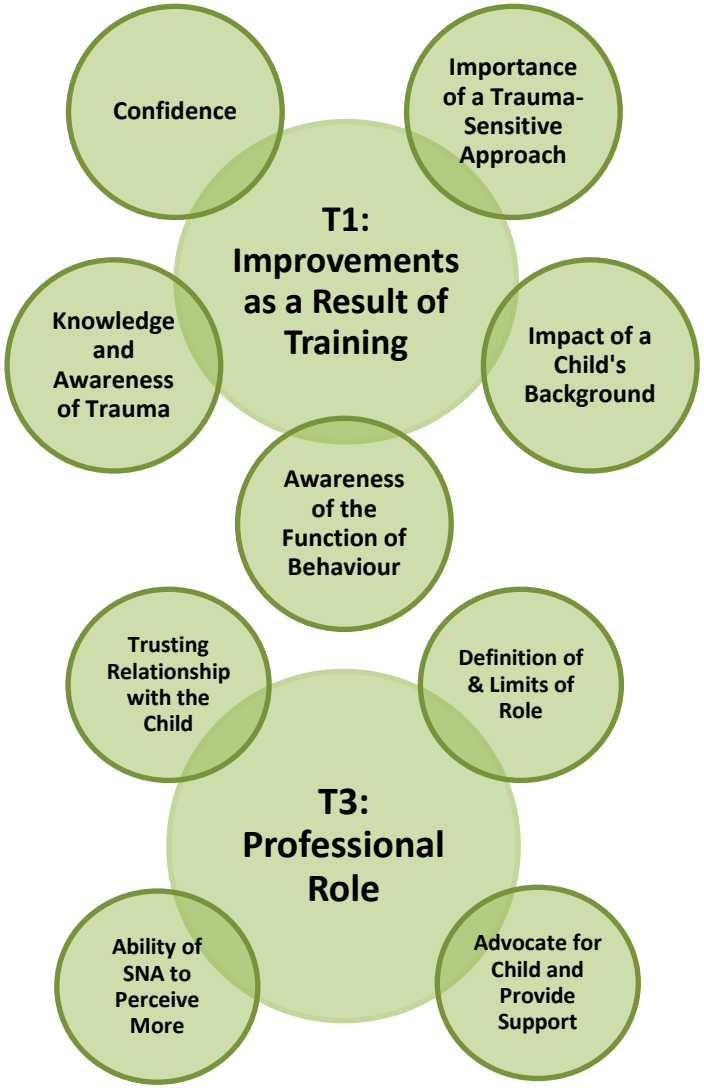
- Awareness of trauma
- Awareness of background and home life of the child (environmental factors)
- Impact on staff of responding to trauma
- Identifying triggers/reasons behind behaviour
- Improvements as a result of training
- Need for support for staff in responding to trauma
- Need for support for students
- Advocate for child
- Barriers to implementation
- Realise/Reaffirm what they were already doing
- Limits/boundaries of role
- Definition of role
- Realisation of what they may have been doing wrong (e.g. triggering child inadvertently)
- More strategies and resources needed to assist responding
- More training needed to assist responding
- Uncertainty in terms of responding to trauma
- Difficulty determining if behaviour is trauma or something else
- Not fully confident in some areas in terms of responding
- Importance of relationship with student
- SNA role closer and can perceive more
- Whole-school/team approach needed
- Have to 'cover yourself' – Child protection and confidentiality
- Need to refer on

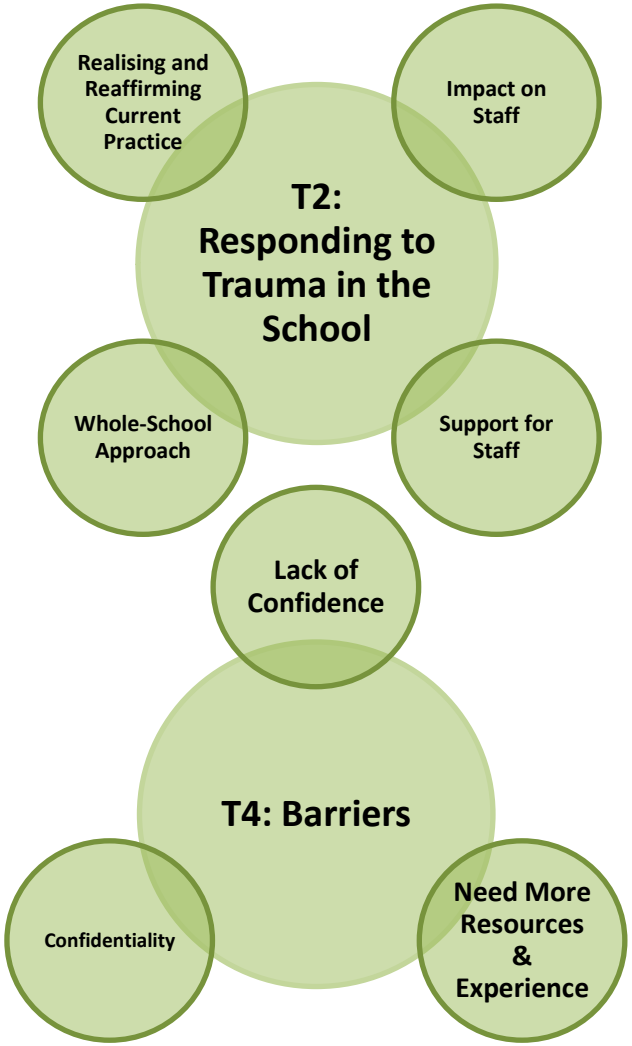
- Teaching things other than academics
- No improvement perceived in some variables (already had this view etc.)
- Importance of trauma-sensitive approaches

Appendix 18: Initial thematic map from analysis of teacher interview data



Appendix 19: Initial thematic map from analysis of SNA interview data





Appendix 20: Fidelity checklists

Session 1: Understanding Trauma & Its Impact		✓
Welcome	Welcome, Questionnaires and Establish Agenda	
Part 1: What is Trauma and Who is Affected?	Definition of Trauma	
	Types of Trauma	
	Prevalence of Childhood Trauma	
	Summary Part 1	
	Part 1 Activity & Discussion: Types of Trauma	
Part 2: How Do We Respond to Stress?	The Trauma Stress System	
	The Stress Response and Trauma	
	Common Responses to Trauma for Youth	
	Culture and Trauma	
	Triggers	
	Summary Part 2	
	Part 2 Activity & Discussion: The Stress Response	
Part 3: What is the Impact of Exposure to Trauma	Risk & Protective Factors	
	Post-Trauma Pathways	
	Effects of Complex Trauma	
	Summary Part 3	
	Part 3 Activity & Discussion: Recognising Trauma	
Part 4: What Does This Mean for Schools?	Impact of Trauma on Students, Parents, Staff and Schools	
	Trauma-Sensitive Schools: A Universal Response	
	Part 4 Activity & Discussion: Applying Trauma Concepts	
	Part 4 Activity: Secondary Traumatic Stress	

Session 2: Building Trauma Sensitive Schools (Part 1)		✓
Welcome	Welcome and Establish Agenda	
Part 1: Introduction to Trauma	Revision of content from Session 1	
Part 2: Introduction to Trauma Sensitivity	What is a Trauma-Sensitive School?	
	Why Should Schools Adopt a Universal Approach to Trauma Development?	
	How do Traditional and Trauma-Sensitive Perspectives Differ?	
	What are the Core Principles of a Trauma-Sensitive Approach?	
	Key Domains of Trauma Sensitivity	
	Activity 1: Applying the Core Principles	
Part 3: Domain 1 – Support Staff Development	Support Staff Development	
	Activity 2: Secondary Traumatic Stress and Self-Care Packet	
Part 4: Domain 2 – Create a Safe and Supportive Environment	Create a Safe and Supportive Environment	
	More About Triggers	
	Create Safe and Supportive Classrooms	
	Practice Scenarios	
	Activity 3: Mapping Triggers and Opportunities	
	Activity 4: Navigating Crises	

Session 3: Building Trauma Sensitive Schools (Part 2)		✓
Part 1: Welcome	Welcome and Establish Agenda	
Part 2: Domain 3 – Assess Needs and Provide Support	Assess Needs and Provide Support	
	Activity 5: Trauma-Sensitive Assessment and Planning Checklist	
	Activity 6: Guidelines for Adopting a Multi-tiered Approach to Addressing Trauma	
Part 3: Domain 4 – Build Social and Emotional Skills	Build Social and Emotional Skills	
	Activity 7: Social and Emotional Competencies Checklist	
Part 4: Domain 5 – Collaborate with Students and Families	Collaborate with Students and Families	
	Activity 8: Strategies for Collaboration	
Part 6: Domain 6 – Adapt Policies and Procedures	Adapt Policies and Procedures	
	Activity 9: Guiding Questions for Policies and Procedures	
Conclusion and Next Steps	Maintaining Trauma Sensitivity	
	Conclusion and Next Steps	
	Questionnaires	