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Exploring the relationship between adoption and psychological trauma for children who are adopted from care: A longitudinal case study perspective

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ABSTRACT

Children who have been adopted from care are very likely to have experienced early adversity that may result in psychological trauma. A current debate in the field is whether adoption provides a pathway to healing for traumatised children, helping them to recover from past psychological harm, or creates trauma for children through the very nature of being an adopted child.

Objective: This study aimed to use longitudinal data pertaining to children who had been adopted from care to examine the relationship between being adopted from care and psychological trauma.

Participants and setting: Seventeen adopted children had been interviewed in their adoptive homes during the third wave of the Care Pathways and Outcomes study (McSherry et al., 2013), when they were aged between nine and 14 years old. Ten of these children were selected for specific consideration in this article. Checklists for early adversities and psychological trauma were used to support the creation of case studies that highlighted the extent of psychological trauma in the children's lives.

Results: The adopted children either experienced possible pre-care psychological trauma, with the impact of this reducing over time, in utero developmental harm due to their mother's alcohol misuse during pregnancy, inherited an intellectual disability, with the resultant difficulties superseding any concern regarding possible pre-care psychological trauma, or possible psychological trauma when moving from an established foster placement to adoption. Recommendations for policy and practice are provided.

1. Introduction

This article is located within a theoretical discourse which postulates that the provision of supportive and nurturant parental relationships enables developmental recovery for children who have experienced early adversity in their lives, with a particular focus upon adoption as a vehicle for recovery from early trauma (Brodzinsky & Palacios, 2005; Perry, 2009; Raby & Dozier, 2019; Rutter et al., 2009; Rutter & the English and Romanian Adoptees Team, 1998).

Interest in adoption crosses the disciplines of psychology, cultural studies, genetics, medicine, education, law, social work and

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sociology (Grotevant & McDermott, 2014; Palacios et al., 2019). There are a number of reasons for and types of adoption. This article focuses on children who have been adopted from the care system in Northern Ireland. Within Northern Ireland, adoption is not the only possible pathway for children when they can no longer live with their birth parents. Other options for providing alterative care include placing children in foster care with relatives, with strangers, or through the granting of a Residence Order, where parental responsibility is shared between the carers and the birth parents (McSherry et al., 2010).

The key difference between adoption and other pathways is that it legally removes the parental rights and responsibilities of birth parents and places them singularly with adoptive parents (Grotevant & McDermott, 2014). This process of legally severing the relationship between children and their birth parents is not without controversy (Anthony, Paine, & Shelton, 2019; McGhee et al., 2018; McSherry et al., 2013), being viewed by some as an extreme option, particularly where other long-term care arrangements exist (Featherstone, Gupta, & Mills, 2018). A further debate centres on the relationship between psychological trauma and adoption, querying if adoption helps to mitigate early psychological trauma or if it is a source of psychological trauma itself (Baden, 2016; Brodzinsky, Gunnar, & Palacios, 2021; Boswell & Cudmore, 2017).

A core focus of adoption research has been an exploration of the role and impact of early adversity (Anthony et al., 2019; Paine, Perra, Anthony, & Shelton, 2021; Tung, Christian-Brandt, Langley, & Waterman, 2020), as well as outcomes for children who are adopted (Brown, Waters, & Shelton, 2019; Juffer & Van Ijzendoorn, 2005; McSherry et al., 2016). This body of research is invaluable to developmental researchers as it offers a natural experimental context in which to explore these questions. Clearly, these are questions which could not be explored by purposely imposing adversity on children in order to examine the effects. Research has focused on a heterogeneous range of topics such as the physical development of children who have been adopted, their self-esteem, their identity, cognitive outcomes, school performance, psychological adjustment, relationships within the adoptive homes and with birth families and relationships with peers, romantic partners (Grotevant & McDermott, 2014; McSherry et al., 2013; 2016).

There is a large body of confirmatory evidence that experiences of early adversity are linked to a host of negative outcomes in terms of physical health, mental health and social and emotional outcomes (Anthony et al., 2019; Felitti et al., 1998; Hughes et al., 2017; Oh et al., 2018). These experiences of adversity can arise from situational contexts, such as living in poverty, having a parent who misuses substances, being exposed to violence, having a parent with mental health issues and maltreatment in the form of physical, sexual or emotional abuse and neglect (Butchart, Putney, Furniss, & Kahane, 2006; McSherry, 2007; 2011; McAnee et al., 2019).

In the context of the current article, psychological trauma is understood as 'an inescapable stressful event that overwhelms people's existing coping mechanism' (Van der Kolk and Fisler, 1995). Although the majority of children who are adopted from care will have experiences of early adversity, these experiences do not in themselves inevitably translate to psychological trauma (McLaughlin & Sheridan, 2016; Racine, Eirich, Dimitropoulos, Hartwick, & Madigan, 2020), hence the use of the term 'possible psychological trauma' throughout this article.

A substantial body of literature has identified protective factors which operate at the individual, family and community level, and include personality traits, supportive relationships and family resources, stable caregiving, strong parental relationships and feeling loved and cared for (Afifi & MacMillan, 2011; Gartland et al., 2019; Masten & Barnes, 2018). Adoption is considered to be one way to provide family-level mitigating factors which can help prevent the potential overwhelming impact of early adversity and allowing children to recover (Van IJzendoorn & Juffer, 2006). In support of this position, a recurring finding is that the age at which a child is adopted, or placed with their adoptive parents, has an impact on outcomes, with children who are adopted at a younger age being repeatedly shown to have the best outcomes (Palacios et al., 2019; Van den Dries, Juffer, Van IJzendoorn, & Bakermans-Kranenburg, 2009). Research has also highlighted that, in order to optimise positive outcomes, adoption should take place within a context of understanding the nature of children's early experiences of adversity and providing parents who adopt with the knowledge, support and tools they need (Anthony et al., 2019; Brodzinsky, 2011).

1.1. Aim of this article

Most research in the field of adoption has been unable to provide a detailed and longitudinal examination of the unique and heterogeneous impact of adversity and recovery from it on adopted children. This article aims to help address that deficit through the development of a group of longitudinal case studies of adopted children, constructed using both qualitative and quantitative data, and collected during three Waves of a longitudinal study focused on exploring the lives of a population of young children in the care system in Northern Ireland, namely the Care Pathways and Outcomes study (McSherry et al., 2013).

Through the lens of the lives of these 10 children who entered care in Northern Ireland before the age of five and were subsequently adopted from care, the article explores the relationship between adoption from care and psychological trauma, from pre-care experiences through to the teenage years. The development of the case studies was guided by two checklists, one detailing adversities which may have been faced by these children prior to entry to care, and the other detailing how psychological trauma may have manifested. Using these checklist, evidence of adversity and possible trauma from birth through to the teenage years was compiled in the form of case studies.

2. Method

2.1. The Care Pathways and Outcomes study

The Care Pathways and Outcomes study is a longitudinal prospective study that has been tracking a population of children (n = 374) who were under the age of five and in care in Northern Ireland on the 31st March 2000. It is focused on understanding how the

children and their parents and carers get on in the short, medium and longer term, within and between the different types of placement pathways that they follow, i.e. adoption, foster care, kinship foster care, Residence Order, and return to birth parents.

Three waves of the study have been completed to date. Wave 1 was focused on developing a baseline of demographics, background factors and reasons for entry to care for the full study population, in addition to tracking the placement history for the study population from birth, with data extracted from social work case files and social care placement databases. Wave 2 (children aged three to eight) again tracked the placement profile for the full study population up to that point in time. Additionally, semi-structured interviews were conducted with a sub-group of adoptive, foster and birth parents (n = 110), using both quantitative and qualitative methods, to understand how they and the children were getting on across a range of psycho-social domains (i.e. parenting stress levels, and children's behavioural and emotional functioning), and covering broader issues such as experiences in school and relationships with family and friends.

Wave 3 of the study (children aged nine to 14) again tracked the placement profile for the full study population up to that point in time, and included semi-structured interviews with a sub-group of children/young people (aged nine to 14) and their parents/carers (n = 72). These interviews again applied both quantitative and qualitative methodology, and focused on a fuller range of psycho-social domains (i.e. parenting stress, children's emotional and behavioural functioning, children's attachments, children's self-concept, and children scholastic aptitude), in addition to broader issues such as school and peer and family relationships (McSherry et al., 2016). Wave 4 (children aged 17–25 years old) is ongoing. The placement profile for the full study has been tracked through to early adulthood and analysed in terms of patterns of stability (McSherry & Fargas Malet, 2018), and interviews have been completed with a sub-group of young people and their parents and carers which have focused on a range of psycho-social domains (Fargas Malet & McSherry, 2021). The current article, however, is focused on findings from Waves 1–3 of the study, and it is the first occasion that data from these three Waves have been considered in combination.

The current article used a mixed-methods design, incorporating quantitative and qualitative data from Waves 1 to 3 of the Care Pathways and Outcomes Study. This longitudinal data was analysed to create case studies for 10 of the children who had been interviewed during Wave 3 of the study.

2.2. Ethical approval

Ethical approval for the study was granted from the Office of Research Ethics Committees in Northern Ireland (ORECNI) on several occasions since the study commenced, most recently in 2016 (16/NI/0130). Research governance approval was also granted by each of the five Health and Social Care (HSC) Trusts in Northern Ireland (equivalent to Local Authorities in England and Wales).

2.3. Participants

Of the 110 families from whom data was collected during Wave 2 of the study, 51 were adoptive placements. Of these, 17 families were interviewed again (both adoptive parents and children) in Wave 3. Hence, although data was available from Waves 1 (background data) to 3 of the study for all 17 of these children, the nature of the approach taken in the current article to representing longitudinal data through a case study approach meant that there was not sufficient space to do this for all 17 children within the presentational confines of this Journal.

As such, it was necessary to select a sufficient number of cases that could be profiled in an informative way whilst also adhering to journal constraints. It was decided to select the 10 cases where a full data profile was available for Waves 1 to 3, and for Wave 4 (ongoing), which would then facilitate a follow-up article considering the relationship between adoption and psychological trauma through to early adulthood. Findings for the full group of adopted children interviewed in Wave 3 are presented elsewhere, and the 10 cases profiled in the current paper are representative of that larger group of 17 as a whole (McSherry et al., 2013; 2016).

2.4. Measures

2.4.1. Wave 1

The data utilised from Wave 1 of the study to inform this article was from two sources. First, Social Services Client Administration and Retrieval Environment (SOSCARE) data was available for all the children which included date of birth, gender and legal status, as well as a detailed and continuous account of each child's placement history from point of entry to care. Second, information had been gathered from social work case files for each of the children. This contained data such as reason(s) for entry into care, child and family background and characteristics and details regarding child health, behavioural issues and any developmental delays (McSherry et al., 2010). This data provided a baseline of family characteristics and background factors for the full study population, which was collated into an SPSS file. In addition to the quantitative file created, pen pictures were generated for each of the children by combining information from the data sources. These provide a summary of the qualitative information available for each child.

2.4.2. Wave 2

The data considered from Wave 2 was from a further two sources, quantitative and qualitative in nature, gathered during semi-structured interviews with adoptive parents on how the placements were progressing for the children.

Quantitative data was gathered using the Strength and Difficulties Questionnaire (SDQ) (Goodman, 1997) for three to 16 year olds, which is a commonly used behavioural screening questionnaire for assessing psychological morbidity in children, as perceived by their parents/carers. It consists of 25 items divided into five scales: emotional symptoms; conduct problems; hyperactivity/inattention; peer

relationship problems; and prosocial behaviour. A total difficulties score is based on the combined scores of each of the scales, with the exception of the prosocial scale. Scores can be classified as normal, borderline or abnormal, with approximately 10% of a community sample scoring within the abnormal range on any given domain, and 10% within the borderline range.

The SDQ has adequate discriminant and predictive validity (Goodman, 1997; Goodman & Scott, 1999), and correlates highly with the Rutter Questionnaires (Goodman, 1997) and with the Child Behaviour Checklist. However, it has been considered more sensitive in detecting inattention and hyperactivity, and to be equally effective in detecting internalising and externalising problems (Goodman & Scott, 1999). The reliability and validity of the measure makes it a useful brief measure of the adjustment and psychopathology of children and adolescents (Goodman, 2001).

Qualitative data was gathered through discussions with the adoptive parents about how the children were getting on in their placements, as well as any difficulties they themselves were facing.

2.4.3. Wave 3

The data utilised from Wave 3 was from a further five sources, quantitative and qualitative, involving the adoptive parents for a second time, and the children for the first time. A £50 shopping voucher was offered to participating families in recognition of the time and effort required to take part in two visits to the family home.

Quantitative data was gathered for a second time from parents again using the SDQ (Goodman, 1997) for three to 16 year olds, and from the young people for the first time using two scales. First, the Inventory of Parent and Peer Attachment — Revised for Children (IPPA-R) (Gullone & Robinson, 2005), which is a measure of attachment for use with adolescents. It measures attachment across three domains: trust; communication; and alienation, between children and both their parents and peers.

The original IPPA (Armsden & Greenberg, 1987) was developed to measure both positive and negative affective and cognitive dimensions of adolescents' relationships with their parents and close friends and the extent to which these figures serve as sources of psychological security. The IPPA-R is suitable for use with children aged between 9 and 15 years, and Gullone and Robinson (2005) provide support for the reliability and validity of the revised measure.

The measure contains two scales: 28 items assessing parent attachment and 25 items assessing peer attachment. Whilst completing the parent section of the measure, the children were reminded that these questions were focused on the parents or carers with whom they currently lived. A board game was developed by the research team to allow the children to complete this scale in a more engaging and user-friendly manner. This involved the use of coloured stickers which the children would place on segments of a snake-like image, with each segment representing a separate question of the measure, and stickers representing whether the statement were ‘always true’, ‘sometimes true’ or ‘never true’ for them.

Second, the Piers-Harris Children's Self-Concept Scale 2 (PH-2) (Piers & Herzberg, 2002). This is represented by six domains: behavioural adjustment; freedom from anxiety; happiness and satisfaction; intellectual and school status; physical appearance and attributes; and popularity. Two validity scales identify biased responding and the tendency to answer randomly. Children complete the 60-item scale by responding either ‘yes’ or ‘no’ to the item statements. The measure is widely used and has good reliability and validity (Jeske, 1985; Piers, 1984; Piers & Herzberg, 2002).

Again, to facilitate the administration of this measure, the research team developed a post-box game, which meant that children could participate in the data collection process in a more engaging and user-friendly way. In the administration of the post-box game, the children were asked to put cards on which the statements from the measure had been printed, into a ‘yes’ box or a ‘no’ box. The board and post-box games are described in full elsewhere (McSherry et al., 2013).

Semi-structured interviews were conducted with parents and children (separately) providing two further qualitative data sources. The parents were asked how the children were getting on across a range of domains, such as in school, with friends, and within the family. The interviews with the children were facilitated by the use of a booklet, developed by the research team and named the ‘me-book’, which explored multiple aspects of their lives. The ‘me-book’ is described in full elsewhere (McSherry et al., 2013). The children could draw and mark the book, and these contributions from the children, alongside the recordings of the conversations, acted as the main data sources.

As part of their semi-structured interview, children were asked to draw expressions of feeling for a series of blank faces to assess how they felt about their lives in the past, present and in the future, with the reasoning for their choices being explored by the researchers. This was done to allow the team to explore their feelings about their early lives, where they were currently living, and their hopes for the future. They were also asked to score themselves on a life ladder (Cantril, 1965), with scores ranging from 0 (very unhappy, the worst that life could be) to 10 (very happy, the best that life could be), which provided a very concrete perspective on their level of contentment with life. They were also offered three imaginary wishes, which were included to provide those children who may have been harbouring hopes, desires and needs regarding their birth family, the opportunity to express these.

2.5. Analysis

The data from the first three Waves of the study was considered through the application of two checklists. In order to identify occurrences of adversity, a checklist was used as shown in Table 1. Adversities consisted of several forms of child maltreatment and other risk factors. Definitions of abuse and neglect in the checklist utilised the UK government guidelines for working to safeguard children (Department for Children, 2018). A second checklist, shown in Table 2, was used to identify evidence of possible psychological trauma, which has been collated from psychological trauma literature specific to children adopted from care (Adoption UK, 2021; Anthony et al., 2019; DeJong, Hodges, & Malik, 2016; Grotevant & McDermott, 2014; Hornfeck et al., 2019 and Neil, Morciano, Young, & Hartley, 2020). The 10 case studies were created by using the checklists to identify occurrences of adversity and possible

evidence of psychological trauma in the children's lives through to the teenage years.

3. Results

The case studies that follow narrate the stories of the ten adopted children whose lives are the focus of the current article over time, in terms of their experiences of early adversity and any signs of possible psychological trauma in their lives. They all follow the same format beginning with Wave 1 data focused on the period when the children initially entered care, and describing early experiences of adversity and possible psychological trauma. They then progress to Wave 2 data, collected when the children were aged between 4 and 9 years old, and then finally to Wave 3 data, gathered when the children were aged between 9 and 14 years old.

It must be noted that these are snapshots of the data collected in relation to the children and their adoptive parents across the three Waves of the study and are singularly focused on highlighting manifestations of psychological trauma in the lives of the children for the purposes of this article. Hence, there is a large body of data that has been considered but deemed not to be informative to the topic under discussion. For example, children would have talked about their hobbies, and favourite subjects at school, and parents would have talked about everyday activities such as taking the dog for a walk or the child's favourite television programmes. Such data did not add anything to our understanding of the relationship between adoption and psychological trauma, and as such is not reflected in the case studies.

Furthermore, the quantitative measures from Wave 2 (SDQ with adoptive parents) and Wave 3 (2nd SDQ with adoptive parents; IPPA and Piers-Harris with children), highlighting the children's psycho-social development over time and across the group of 10, are

Table 1
Checklist of adversities.

Adversity	Description
Physical abuse	A form of abuse which may involve hitting, shaking, throwing, poisoning, burning or scalding, drowning, suffocating or otherwise causing physical harm to a child. Physical harm may also be caused when a parent or carer fabricates the symptoms of, or deliberately induces, illness in a child.
Sexual abuse	Involves forcing or enticing a child or young person to take part in sexual activities, not necessarily involving a high level of violence, whether or not the child is aware of what is happening. The activities may involve physical contact, including assault by penetration (for example, rape or oral sex) or non-penetrative acts such as masturbation, kissing, rubbing and touching outside of clothing. They may also include non-contact activities, such as involving children in looking at, or in the production of, sexual images, watching sexual activities, encouraging children to behave in sexually inappropriate ways, or grooming a child in preparation for abuse. Sexual abuse can take place online, and technology can be used to facilitate offline abuse. Sexual abuse is not solely perpetrated by adult males. Women can also commit acts of sexual abuse, as can other children.
Emotional abuse	The persistent emotional maltreatment of a child such as to cause severe and persistent adverse effects on the child's emotional development. It may involve conveying to a child that they are worthless or unloved, inadequate, or valued only insofar as they meet the needs of another person. It may include not giving the child opportunities to express their views, deliberately silencing them or 'making fun' of what they say or how they communicate. It may feature age or developmentally inappropriate expectations being imposed on children. These may include interactions that are beyond a child's developmental capability, as well as overprotection and limitation of exploration and learning, or preventing the child participating in normal social interaction. It may involve seeing or hearing the ill-treatment of another. It may involve serious bullying (including cyber bullying), causing children frequently to feel frightened or in danger, or the exploitation or corruption of children. Some level of emotional abuse is involved in all types of maltreatment of a child, though it may occur alone.
Neglect	The persistent failure to meet a child's basic physical and/or psychological needs, likely to result in the serious impairment of the child's health or development. Neglect may occur during pregnancy as a result of maternal substance abuse. Once a child is born, neglect may involve a parent or carer failing to: a. provide adequate food, clothing and shelter (including exclusion from home or abandonment) b. protect a child from physical and emotional harm or danger c. ensure adequate supervision (including the use of inadequate caregivers) d. ensure access to appropriate medical care or treatment It may also include neglect of, or unresponsiveness to, a child's basic emotional needs.
Experiencing domestic abuse	Domestic abuse can encompass a wide range of behaviours and may be a single incident or a pattern of incidents. Domestic abuse is not limited to physical acts of violence or threatening behaviour, and can include emotional, psychological, controlling or coercive behaviour, sexual and/or economic abuse. Types of domestic abuse include intimate partner violence, abuse by family members, teenage relationship abuse and adolescent to parent violence. Anyone can be a victim of domestic abuse, regardless of gender, age, ethnicity, socio-economic status, sexuality or background and domestic abuse can take place inside or outside of the home. Domestic abuse continues to be a prevalent risk factor identified through children social care assessments for children in need. Domestic abuse has a significant impact on children and young people. Children may experience domestic abuse directly, as victims in their own right, or indirectly due to the impact the abuse has on others such as the non-abusive parent.
Parents becoming separated/ divorced	Child experienced the breakdown of the parents' relationship.
Death of a parent	Child experienced the death of one of their parents.
Having a parent with substance abuse issues	Child lived with someone who was a problem drinker, an alcoholic or who used drugs.
Having a parent who was in jail	Child had a household member who went to jail.
Having a parent with mental health issues	Child had a parent with a mental health condition such as depression, or attempted suicide.

Table 2
Checklist of evidence of psychological trauma

Behaviour
Being aggressive or violent towards parents/carers
Being aggressive or violent towards siblings
Being aggressive or violent towards peers
Being aggressive or violent towards teachers or other professionals
Being withdrawn
Being very angry
Being very sad
Expressing suicidal thoughts
Unable to accept physical affection
Unable to show physical affection
Unable to make eye contact
Displaying indiscriminate or inappropriate affection
Over demand for parental affection
Experiencing difficulty sleeping
Experiences nightmares or night terrors
Being afraid of the dark
Bed wetting
Becoming overwhelmed by noise or other stimuli
Being easily irritated
Having difficulties in peer relationships
Not eating
Unable to pay attention/focus
Being hyperactive
Difficulties making friends
Diagnosis of foetal alcohol syndrome
Speech and language difficulties

reported in Table 3 to enable an overall perspective to be gleaned of how the children have been getting on as a group. Pseudonyms were used for all the children. This data is considered alongside the qualitative data within the case studies.

3.1. Dave

Dave's birth mother had a history of sexual abuse. She had experienced post-natal psychosis following his birth during which she focused her psychotic thoughts towards him, and he had received an unexplained injury. She attempted suicide and put Dave's life at risk in the process. He was admitted to care at two months old. He had a number of placements including with an aunt, with foster carers, a failed period of rehabilitation with his birth mother, a return to foster care, an eventual placement with adoptive parents at age three and finally being adopted at age four and a half.

His adoptive parents were first interviewed when he was seven years old. They reported an initial period when he '*was insecure and uncertain of himself*', that he didn't '*like to let you out of his sight*' and they talked about:

'*one day when he cried and was upset about leaving his foster carers and thought that they didn't love him*'.

However, they commented that over time he '*settled in, relaxed more and got more used to our way of doing things*' and that he was '*a very happy child, it's just amazing*'. They reported at that time that he did '*still ask the odd question about, you know, why was he adopted and why him and not his brother and things*', which they described as being like '*a passing cloud*'.

When his adoptive parents were interviewed for a second time, Dave was 11 years old. They reported that there '*were no major issues*', Dave was getting more secure and he was an affectionate child. He had been diagnosed with ADHD since the previous research visit, but had responded well to treatment. They described that he did have night-time worries about intruders, he '*likes windows to be shut at night*', which they felt may have been down to experiences in his past:

> 'We both think that his mother tended to have a lot of parties and things and I suspect they would have put the child to bed and people would be quite drunk and sometimes kind of wander into his room by mistake or something and he found that quite frightening…'

During his own interview, and as part of the 'draw a face' exercise, Dave reported that he was '*happy*' with his life now and '*very happy*' when he thought about his future life. He drew a blank face to represent how he felt about his past and described it as '*okay*' rather than happy, '*because my mum took ill and wasn't able to look after me*', although he also said he '*was okay with that*'. He gave himself a score of eight out of 10 on the life ladder.

His profile across the quantitative measures (Table 3) reflected a positive profile in terms of his SDQ scores in Waves 2 and 3, with only hyperactivity being abnormal, which would be consistent with his diagnosis of ADHD. His IPPA scores showed that he was securely attached to his adoptive parents and his Piers-Harris scores were generally more positive than those for his non-adopted peers.

Table 3
Quantitative scores reported for each child on all measures

Child	Dave		Eric		Madeleine		Fionn		Eve		Olivia		Aaron		Julie		Steve		William	
Wave	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3
SDQ (parent)																				
Emotional problems	Normal	Normal	Abnormal	Abnormal	Normal	Normal	Normal	Normal	Abnormal	Normal	Normal	Normal	Abnormal	Abnormal	Normal	Normal	Normal	Normal	Normal	Abnormal
Hyperactivity/ inattention	Abnormal	Abnormal	Abnormal	Abnormal	Normal	Normal	Normal	Normal	Abnormal	Normal	Normal	Normal	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal	Abnormal
Conduct problems	Normal	Normal	Normal	Normal	Abnormal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Abnormal	Abnormal	Normal	Normal	Normal	Normal	Normal	Abnormal
Peer relationship problems	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Abnormal	Borderline	Normal	Normal	Normal	Abnormal	Normal	Normal	Normal	Normal	Normal	Abnormal
Prosocial behaviour	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Overall	Normal	Normal	Abnormal	Abnormal	Borderline	Normal	Normal	Normal	Borderline	Normal	Normal	Normal	Abnormal	Abnormal	Normal	Normal	Normal	Normal	Normal	Abnormal
Piers-Harris (child)																				
Total self-concept	–	High	–	Average	–	Average	–	Average	–	Average	–	High	–	Low	–	Average	–	Very high	–	Low
Behaviour adjustment	–	Above average	–	Average	–	Average	–	Low average	–	Average	–	Above average	–	Low	–	Above average	–	Above average	–	Average
Freedom from anxiety	–	Above average	–	Average	–	Average	–	Average	–	Above average	–	Above average	–	Low	–	Average	–	Above average	–	Average
Happiness and satisfaction	–	Above average	–	Average	–	Average	–	Average	–	Average	–	Above average	–	Average	–	Above average	–	Above average	–	Low average
Intellectual and school status	–	Average	–	Average	–	Low average	–	Average	–	Average	–	Above average	–	Low	–	Average	–	Above average	–	Low average
Physical appearance and attributes	–	Above average	–	Low average	–	Low average	–	Average	–	Low average	–	Average	–	Low	–	Low	–	Above average	–	Very low
Popularity	–	Above average	–	Average	–	Above average	–	Average	–	Above average	–	Average	–	Low	–	Average	–	Above average	–	Low average
IPPA-R (child)																				
Overall parental attachment	–	High security	–	High security	–	High security	–	High security	–	High security	–	High security	–	High security	–	High security	–	High security	–	High security
Trust	–	High	–	High	–	High	–	High	–	High	–	High	–	High	–	High	–	Medium	–	High
Communication	–	High	–	High	–	Medium	–	Medium	–	Medium	–	High	–	Medium	–	Medium	–	High	–	Medium
Alienation	–	Low	–	Low	–	Low	–	Low	–	Low	–	Low	–	Low	–	Low	–	Low	–	Medium

3.2. Eric

Eric's birth mother was referred to Social Services prior to his birth due to alcohol misuse and his birth father being a Schedule One offender. He was placed on the Child Protection Register (CPR) at birth under the category of 'Potential Sexual Abuse'. Eric and his birth mother were placed in a specialist unit in the hospital due to concerns regarding her alcohol misuse and ability to care. He was initially placed in the care of his aunt on discharge from hospital and then voluntarily admitted to care at age three months. At that stage he was displaying evidence of Foetal Alcohol Spectrum Disorder (FASD). Eric was adopted by the foster parents with whom he was placed at three months old.

His adoptive parents were first interviewed when he was five years old and reported him to have '*settled in well*' and that he was '*very happy*'. When they were interviewed for a second time, Eric was 10 years old. They reported that he was '*very secure and very happy and content.*' They also described that he was now attending a consultant for FASD and Attention-Deficit Hyperactivity Disorder (ADHD), with a range of challenging behaviours such as being '*very wary of strangers',* not being able to sleep very well and having little interest in food:

'*His behaviour has improved, it is a bit easier to work with him … he has FASD, which is something will affect him for the rest of his life. Because of that he had to be in hospital, almost to dry out, because he was taking fits and that, so, had a great medical history … it's lucky he survived the whole thing before he came into care really*'.

He had experienced some challenges academically, but they felt things were improving, and he was popular with his peers. He could have '*outbursts*', but they reported his behaviour was improving. They also commented that he had '*a bit of sadness in the whole thing of adoption*' which seemed to be centred on why his birth mother did not come to see him. Eric himself in his own interview reported that he was '*happy*' with his life now and '*very happy*' when he thought about his future life. He also drew a blank face to represent how he felt about his past and said that he was '*sad … a wee bit sad*' when he thought about his birth mother. He gave himself a score of 10 out of 10 on the life ladder.

Eric's profile across the quantitative data measures (Table 3) showed a mix of normal and abnormal scores on the SDQ, across both Waves 2 and 3, which is not unexpected given his diagnosis of FASD. His IPPA scores indicated that he was securely attached to his adoptive parents, with his Pier-Harris self-concept scores being similar to those of his non-adopted peers.

3.3. Madeleine

Madeline was one week old when she was placed in care. Her birth mother and father were both known to Social Services for misusing alcohol, and incidents of domestic violence, with five older siblings already having been placed in care. An Initial Child Protection Case Conference (ICPCC) was held prior to her birth, and her name was added to the CPR under 'potential neglect' at birth. Madeleine was placed in temporary foster care one week after birth, but remained there for two years before being moved to an adoptive placement, where her two older siblings were already living, and all three were adopted sometime later. Given her birth mother's history of alcohol misuse, there were concerns regarding the possibility of FASD for Madeline.

Her adoptive parents were first interviewed when she was six years old. They described some difficulties in the home with Madeleine's arrival as everyone readjusted:

'*If it was just her and me all the time and we wouldn't have the boys to rub us up the wrong way, it would probably have worked out better, but it will work out*'.

However, they commented that it was '*a lot better now than it was a year ago and two years ago*'. Madeleine's adoptive parents were interviewed for a second time when she was 13 years old and reported that she had settled in well although they explained that:

'*If Madeline doesn't want to do something, she won't do it. I mean she is very much her own person*'.

As was the case with both Dave and Eric, Madeleine herself indicated with smiley faces that she was '*happy*' with her present life and when thinking about her future. However, when it came to considering her past, the face she drew was '*angry*' and '*sad*', which she explained was because '*I don't like the way like I was stuck in care and then* [whispering] *foster carer didn't want me*'. She gave herself a score of 10 out of 10 on the life ladder.

Madeleine's profile across the quantitative measures (Table 3) was mostly normal in relation to the SDQ, showing an improvement from Wave 2 to 3. Her IPPA scores indicated that she was also securely attached to her adoptive parents, with her Piers-Harris self-concept scores being mostly similar to those of her non-adopted peers.

3.4. Fionn

Fionn's birth mother and father were a young middle-class unmarried couple at university who did not feel ready to be parents, with his birth mother requesting that he be adopted. He was placed initially with temporary foster carers straight from birth and then with his adoptive parents at 15 weeks old.

His adoptive parents were first interviewed when he was four years old and described a '*sociable*', '*boisterous*', '*comfortable*' and '*confident*' child. They were interviewed for a second time when Fionn was nine years old. They described him as still being '*secure and settled*', although they also reported issues when he was younger around going to bed and said that he could get '*quite explosive*' if he got upset, although this was described as not beyond what would be expected of children his age. They also commented that Fionn was asking questions about his adoption:

'*I think recently probably within the last week or month or two there have been more questions coming up around adoption … it is not something that is constantly on his mind, but all of a sudden it would come up, he would talk again*'.

During Fionn's own interview he indicated with smiley faces that he was happy with his present and his future. However, when it came to his past, he drew a blank face and wrote 'ok', but would not elaborate on why he felt this way. He gave himself a score of nine out of 10 on the life ladder.

Fionn's profile across the quantitative measures (Table 3) was normal at both Waves 1 and 2 on the SDQ, his IPPA scores indicated he was securely attached to his adopted parents, and his Piers-Harris self-concept scores were similar to those of his non-adopted peers.

3.5. Eve

Eve's birth mother had severe learning disability and was homeless when she became pregnant, and Eve's name was added to the CPR at birth. Her birth mother had been residing at a Social Services parenting centre for five months prior to her birth, and her birth father was in prison at this time. After she was born, an initial assessment was carried out on her birth mother's parenting capacity, but this was unsuccessful. When Eve was three months old she was placed in foster care where she remained for two and a half years before moving to her adoptive home.

Her adoptive parents were interviewed for the first time when she was six years old and they reported that she '*settled very well*' at both home and school. Initially when Eve came to them she did not speak, but had progressed well since then in that regard, although they were concerned that she '*would be very much a loner which gives cause for concern actually*'.

When the adoptive parents were interviewed for a second time, Eve was 12 years old. They reported concerns with her development stating that '*she is still a bit behind, kids her age are leaps and bounds ahead of her*'. Their concerns regarding her social skills had also increased and they observed that they '*worry about her all the time*'. They felt that she was '*just different than other kids*' describing her as '*very distant*' and '*very cold*' and observed that '*she is having problems now forming friendships*', and with concerns growing that she was being bullied in school. They had referred her to be assessed but felt she had been seen '*on a good day*' and that they had been advised to give her some time.

Like all the previous children, Eve indicated with smiley faces that she was happy with her present and her future. She talked the most, however, about how thinking about her past made her feel sad which she indicated with both a sad face and by writing '*sad*' and '*I miss them*'. She referred to photos she had of her birth parents, her curiosity about them, and how she didn't really get the chance to speak about how she misses them, although she also said she wouldn't want to speak to anyone about it. Eve gave herself a score of 10 out of 10 on the life ladder.

Eve's profile across the quantitative measures (Table 3) was mostly normal in terms of the SDQ, and showed some improvement from Wave 2 to 3. Her IPPA scores suggested that she was securely attached to her adoptive parents and her Piers-Harris self-concept profile was similar to that of her non-adopted peers.

3.6. Olivia

Shortly after her birth, Olivia was placed on the CPR under the categories of 'Potential Neglect' and 'Potential Abuse'. Her birth mother had a history of alcohol misuse, depression and suicide attempts, and three older siblings had already been placed in care. Olivia was taken into care and placed with foster carers at seven months old, when she was found unsupervised and being cared for by a 5-year-old child, whilst her mother could not be located. Given her mother's alcohol misuse, there was a risk that Olivia could be suffering from FASD. She remained with temporary foster carers for two and a half years before being placed with adoptive parents. Olivia was greatly unsettled when she first came to live with her adoptive parents, as they describe in the first interview:

'*Quite difficult at the start, there wasn't an immediate bond, child was quite withdrawn … if you lifted her it was like carrying a piece of wood … no interaction at all*'.

Olivia was wary of everyone, she worried when social workers visited and would ask if they were going to take her away. She also worried about food. Furthermore, any time that she had contact with her birth mother she became very unsettled and anxious.

By the time of the second interview her adoptive parents described her as '*a totally different child*'. They had watched her become more secure over time and reported no major issues and no sign of FASD, although they said she still '*wouldn't be the most confident of child, she's just a reserved child*'. She did still occasionally talk about her birth mother and although her birth father had regularly sent birthday and Christmas cards, they had decided not to give them to her, as some of the wording was considered inappropriate, such as writing '*To, my wonderful daughter*'.

However, in her own interview Olivia indicated that she would like to know more about her birth parents and that she would like to find out more about them. In keeping with all the other children, the faces she drew to represent her present and her future were happy faces, but Olivia drew a neutral face for her past and described this as '*kind of sad but happy as well*'. She said that she was happy that she was with her adoptive parents but was sad '*when I think about my past and I think about how I didn't get to stay with my real mummy*'. When offered her three imaginary wishes, Olivia wrote that one of them would be '*to live with my birth mummy*'. She gave herself a score of eight out of 10 on the life ladder and said that only one thing was bothering her, '*that I don't know my birth parents*'.

Olivia's profile across the quantitative measures (Table 3) was normal in terms of the SDQ, for Waves 2 to 3. Her IPPA scores indicated that she was securely attached to her adoptive parents and her Piers-Harris self-concept scores were more positive than those of her non-adopted peers.

3.7. Aaron

Aaron's birth mother and father had an extensive history of alcohol misuse and there were repeated incidents of Domestic Violence

from father to mother. Initial health assessments of Aaron found that he had asthma and was failing to thrive. There were early concerns that he suffered from FASD. Aaron was taken into care when just over one year old and placed with foster carers. He was adopted by these same foster carers.

At the first interview when he was seven years old his adoptive parents described a small, slight child who was very smart but very unsettled, and with a diagnosis of FASD and ADHD. He was finding school very difficult and would hardly sleep:

> '*He puts himself in danger, wouldn't see danger … but a very lovable wee thing, and afterwards would be very sorry, but just plunges ahead with things*'.

At the second interview Aaron's adoptive parents described how things had gotten more difficult for him as he got older and that there had '*been lots of issues because he has had a lot of medical developments*', which referred to mental health issues that were coming through for him, particularly regarding his '*strange*' behaviour, such as bathing fully clothed, and telling very tall tales to people, mental health issues that were also present in his birth family. He still did not sleep, was very impulsive, had few boundaries and didn't understand the rules of social engagement, so continued to struggle to make friends.

Aaron had been moved to a special needs school and after an initial period of adjustment he was doing very well there, and particularly enjoying the social aspect. His adoptive parents were proactive in trying to understand him and his needs:

> '*I would talk to the psychiatrist, I've been to several conferences he's done, I've joined a group … about children with mental health, and I have been going to it, just to try and understand what it's like for him and what to say to him when he is asking about it, you know*'.

In Aaron's own interview he also drew a happy face to represent his present and wrote, '*I love my life*'. However, for his past he was conflicted. He drew a blank face and said he both wanted to '*forget about it*' but also to '*know more about what actually happened.*' In terms of feelings about the future, however, Aaron drew a frightened face and described a detailed fear of death, and in particular how he was going to die. He also wrote that he would use one of his wishes '*to see my real mum*'. Aaron gave himself a score of five out of 10 on the life ladder.

Aaron's profile across the quantitative measures (Table 3) was mostly abnormal on the SDQ for both Waves 1 and 2, which was consistent with his suffering from FASD, ADHD, and experiencing mental health difficulties. His IPPA scores showed that he was securely attached to his adoptive parents, but his Piers-Harris self-concept scores were less positive than those of his non-adopted peers.

3.8. Julie

Julie's birth mother had a history of depression and anxiety with multiple admissions to a mental health facility and had experienced domestic violence from Julie's father. Julie's name was placed on the CPR under the category of 'Potential Physical Abuse'. When she was 14 months old her birth mother requested she be taken into care as she could no longer cope. Over the next two years Julie had a number of foster placements and two unsuccessful rehabilitations with her birth mother. A psychiatric report on her birth mother noted that she was not capable of successfully parenting Julie. Julie was placed with her adoptive parents when she was two years old.

At their first interview when Julie was seven years old her adoptive parents described her as a child who '*was willing to be loved and wanting to be loved*'. There were some settling in issues and they described '*sever temper tantrums*' and that Julie hated going away from home:

> "*She hates you going away … any time you're going away, if we're going on holiday, 'will my room be beside yours?', 'will I be close to you?*'"

At the time of the second interview, Julie was 12 years old and her adoptive parents reported that she was getting on well at home and at school. She had been asking questions about her adoption:

> "*Julie would ask about the early days and I would say "well look, you know there was alcohol and drugs involved and we don't know to what extent" … it is trying to find the right way … without being too cruel and horrible, you know, which obviously you don't want to be, but at the same time it is a fine line, you don't what to have painted this picture of this perfect mother that gave you up and was so good at giving you up, you know, because you know there is no point in doing that either*."

In Julie's own interview she indicated that she too was '*happy*' with her present, while she described her past as having '*bad things and good things*'. She was the only child who said she did not think about the future and gave herself a score of nine out of 10 on the life ladder.

Julie's profile across the quantitative measures (Table 3) was mostly normal in terms of the SDQ, but with hyperactivity being abnormal at both Waves 2 and 3. Her IPPA scores suggested that she was securely attached to her adoptive parents and her Piers-Harris self-concept scores were very similar to those of her non-adopted peers.

3.9. Steve

Social services became involved soon after Steve's birth when his health visitor noticed that his birth mother had very limited intellectual ability, poor personal hygiene, their home conditions were appalling, and there were incidents of domestic violence from Steve's birth father towards his mother. His birth mother was provided with a place in a Social Services hostel, but she left Steve unattended to go and meet his birth father, whom she had been advised to cease contact with, and failed to return. At three weeks old Steve was taken into care and placed with foster carers who eventually went on to adopt him. It soon became clear that Steve had quite profound learning disability.

At their first interview when Steve was nine years old his adoptive parents reported that although it was difficult when he first arrived, things were going well. At the time of the second interview, Steve was almost 14 years old. The adoptive parents, and another

family member who was supporting Steve through the interview process, reported again that he was doing well, had been growing in confidence, becoming more independence, was doing very well in school, and that '*... he loves school and loves his teachers*'. They commented that Steve had contact twice a year with his birth mother who they referred to as a family friend as they didn't want to confuse him:

'*... I don't think he wants to know … we kind of say like she's a family friend but she would sometimes call herself Mummy to him so it's extremely confusing, I would always try and intervene at that stage. You know, but just it would be too much for Steve to manage you know*'.

During his own interview, and when completing the faces exercise, Steve said he was '*happy*' about his present and his future and '*okay*' when he thought about his past. He gave himself a score of 10 out of 10 on the life ladder.

Steve's profile across the quantitative measures (Table 3) was mostly normal in terms of the SDQ, with only hyperactivity being abnormal, which would be consistent with his significant learning disability. His IPPA scores indicated that he was securely attached to his adoptive parents and his Piers-Harris self-concept scores were more positive than those of his non-adopted peers.

3.10. William

Social Services were involved with William's family for two years prior to his birth. His birth mother was misusing alcohol and there were incidents of domestic violence from his birth father against his mother. He was placed on the CPR prior to birth under the category of 'Potential Neglect'. When William was born, he displayed behaviour that suggested he was suffering from FASD. He was initially discharged to the care of a maternal aunt and uncle, but by four months old was taken into care as the relative could no longer care for him. His birth mother later separated from his birth father and requested William's return to her care. At nine months old William was placed with his birth mother in a parenting assessment centre. This proved to be successful and William and his birth mother secured a home within the local community when he was one year old. His birth mother started a new relationship, but when it ended she requested that William be taken into care due to her inability to cope. William was placed with foster carers when he was almost a year and a half old and was adopted by them.

At their first interview when William was eight years old his adoptive parents reported a very troubled child with issues with his mood, with eating and with sleeping:

'*The problems that William had were probably to do with his mood but also because he had FASD, and for a lot of the problems we saw were related to his sleep pattern … night terrors … he was absolutely traumatised when you tried to take him upstairs*'.

At the time of the second interview, William was 13 years old. His adoptive parents reported that in addition to his FASD, he had also been diagnosed with ADHD. They felt he was secure in his placement with them and they had a good relationship with him, however, he still had a lot of problems with behaviour, with unsettled sleep, with relationships, and particularly with school:

'*… if a teacher who doesn't particularly know him that well maybe just said something in the wrong way, it's enough to make William maybe run off. And that in itself then, they can't allow that to happen and they maybe pursue him and then he feels that he's backed into a corner and he reacts by getting aggressive, verbally…*'.

His parents reported that he often was physically sick at the thought of going to school and would be physically and mentally exhausted when he returned, primarily because of his need to control his environment to reduce his anxiety, with this not really being possible in a school environment. They commented that he didn't ask many questions about his adoption. In his own interview, William indicated that he was happy with his present, and his future, while he didn't really think about his past. He gave himself a score of 8/9 on the life ladder.

William's profile across the quantitative measures (Table 3) had moved from mainly normal to mainly abnormal on the SDQ between Waves 2 and 3. His IPPA scores indicated that he was securely attached to his adoptive parents and his Piers-Harris self-concept scores somewhat less positive than those of his non-adopted peers.

4. Summary of results

The focus of this article was to try and better understand the relationship between adoption and psychological trauma by exploring the experiences of a number of children who were adopted from care, from their early experiences prior to entry to care, through their early lives and into their teens. The ten children that are profiled highlight the diversity of their experience, but also the presence of some patterns of experience that were similar for some. In fact, six patterns of experience have been highlighted that help explain the relationship between adoption and psychological trauma for children who are adopted from care at a young age:

Pattern 1: Evidence of possible early psychological trauma prior to entry to care and subsequent adoption. This early trauma manifested itself in early difficulties within the adoptive placement, followed by gradual improvement and recovery over time, resulting in the child developing secure attachments to their adoptive parents and being happy with their life. This pattern would fit the experiences of both Dave and Julie.

Pattern 2: Evidence of possible early psychological trauma and pre-birth developmental harm from maternal alcohol misuse prior to entry to care and subsequent adoption. This early trauma and pre-birth developmental harm manifested in multiple challenges at the beginning of the adoptive placement, and throughout, particularly in relation to the child suffering from Fetal Alcohol Spectrum Disorder (FASD), although there was evidence that there was some improvement in the child's behaviour and emotional symptoms over time. Despite these challenges, it was clear that the child had developed secure attachments with their adoptive parents and was happy in their life. This pattern would be consistent with the experiences of Eric, Aaron and William.

Pattern 3: No evidence of early psychological trauma or pre-birth developmental harm prior to entry to care and subsequent adoption. In this instance, there were no early difficulties at the start of the placement or throughout, with development progressing normally, and secure attachments formed. This pattern is consistent with the experience of Fionn.

Pattern 4: Evidence of early psychological trauma and inherited intellectual disability prior to entry to care and subsequent adoption. This led to some early difficulties in the adoptive placement, and although the developmental deficits continued to raise challenges, there was some improvement over time, and the child had developed secure attachments to the adoptive parents and was happy in their life. This pattern would reflect the experiences of Eve and Steve.

Pattern 5: No evidence of psychological trauma prior to entry to care but evidence of possible psychological trauma in the transition from foster care to new adoptive placement. The lengthy duration of the initial foster placement supported the formation of secure attachments with foster carers, and the ending of these relationships through movement to adoptive placement did appear to have been psychologically traumatic for the child. This led to early difficulties in the adoptive placement. However, these resolved over time and the child developed new secure attachments with the adoptive parents and was happy with their life. This pattern was consistent with the experiences of Madeline.

Pattern 6: Evidence of psychological trauma prior to entry to care and evidence of possible psychological trauma in the transition from foster care to new adoptive placement. The lengthy duration of the initial foster placement supported the formation of secure attachments with foster carers, and the ending of these relationships through movement to adoptive placement did appear to have been psychologically traumatic for the child. Combined with the possible early trauma prior to entry to care, this manifested itself in early difficulties in the adoptive placement. However, these resolved over time and the child developed new secure attachments with the adoptive parents and was happy with their life. This pattern was consistent with the experiences of Olivia.

5. Discussion

This article captures the early experiences of children who entered the care system at a young age and were subsequently adopted and considers this alongside longitudinal quantitative and qualitative data on how they were getting on through to their teenage years. It demonstrates that the relationship between adoption and trauma mainly reflects a picture of adversity and trauma occurring for these children prior to entry to care, with adoption then facilitating some degree of recovery over time. This is a finding that is consistent with other studies in this area, thus providing further confirmatory evidence on the capacity of nurturant parental relationships to aid trauma recovery (Palacios et al., 2019; Perry, 2009; Van IJzendoorn & Juffer, 2006).

It was also clear that for some of these children, the key issue of concern was not the possible experience of early psychological trauma prior to entry to care, but harmful experiences in utero, due to their mother misusing alcohol while pregnant, and resulting in FASD for the child. The high level of FASD (diagnosed and suspected) among the 10 children profiled in the current article reflects similarly high levels of the disorder highlighted in more recent research on children in pre-adoptive placements (Tenenbaum et al., 2020).

There were also instances where children had inherited an intellectual disability from their birth parents, and the challenges and difficulties that this type of disability raised were of almost singular concern, even where there may have been the possibility of early psychological trauma in the child's life.

These pre-birth factors have led to multiple and inter-related challenges and difficulties for these children, and their adoptive parents, throughout their lives, and it is remarkable that for each of the children who had these experiences, they remained securely attached to their adoptive parents in their teenage years, in addition to stating that they were happy in their lives.

There was also some evidence of psychological trauma extending beyond the pre-care experience, and into adoption, where children had been living in an established foster placement for an extended period of time prior to movement to the adoptive placement, resulting in the child's attachments with their foster parents being effectively severed. In these instances, it could be argued that there was the possibility that they were psychologically traumatised by their adoption. However, in the two instances where this occurred, it was clear that the children did go on to form new secure attachments with their adoptive parents and were happy.

Indeed, apart from the two instances of possible traumatic transition from foster care to adoption, there were no examples of data gathered during any phase of the study, for any of the other children, that indicated being adopted, or being an adopted child, was traumatic for them in any way, shape or form. They were all secure and content in their lives, despite the health difficulties that many were experiencing.

What was clear however was that for almost all of the children, although they may have been content in their lives, there did appear to be a psychological presence of their birth parents, almost like a shadow, that left them feeling ambivalent, confused or sad about their past at times (Fargas Malet & McSherry, 2021). These findings to some extent reflect Boss's (1980) concept of 'ambiguous loss', where birth parents, although physically absent, remain psychologically present for the adopted child.

Despite this clear ambivalence and at times sadness about the past, we would not consider that these feelings equated to adoption trauma because the reflections of the children on the loss of these relationships were not accompanied by any descriptions of feelings of extreme stress or dissociation that would be associated with the experience of psychological trauma. Certainly, their universal reference to being 'happy' would not be consistent with experiencing trauma. Additionally, the positive scores of the children on the attachment and self-concept measures would not be reflective of children experiencing psychological trauma. But, there was still ambiguity and/or sadness there for most children, that is worthy of further consideration. Yet, even if these feelings regarding the past were to reach the level of psychological trauma, it is our view that this could not be considered as being adoption trauma, because it would not have its origins within the adoptive placement.

It needs to be acknowledged that the early lives of children who are adopted from care almost without exception reflect complex and often multiple adverse experiences or situations, as highlighted by the cases profiled within this article. The children's lives and their futures will have been considered in much detail during three separate court processes: first, Care Proceedings when children enter care and are deemed to be at risk of significant harm; second, Freeing Proceedings, where a decision is taken that parental consent can be dispensed with and the child placed for adoption; and third, when an Adoption Order is made. This process itself can take several years to conclude (Kelly & McSherry, 2002).

The reality is that the birth parents of adopted children have very complex challenges and struggles in their lives that have been deemed to be prohibitive of them parenting their children. As such, these children will always need to be provided with an alternative home and parents or carers. It is not unexpected that having to be taken into care and adopted due to the inability or incapacity of your birth parents to care for you will evoke feelings of ambivalence, confusion and sadness for children, even happy, secure children. But, when these feelings occur in the context of an adoption that is the result of a need for alternative parents, adoption itself ought not be considered the cause, as these feelings are commonplace across a range of alternative parenting arrangements, including long-term fostering (McSherry et al., 2013).

5.1. Limitations

As mentioned in the methodology section, 10 of the 17 adopted children about whom data was collected during Wave 3 of the study were included in the current article, primarily due to the space limitations of the Journal and the challenge faced when presenting a longitudinal case study perspective. Additionally, the lives of the children, and how they have been feeling within their adoption, has only been informed through a limited number of data sources, and as such, may be restricted in terms of the capacity to truly represent how they were thinking and feeling about their lives and being adopted.

Furthermore, our consideration of the children's attachments with their adoptive parents is reflective of the use of an attachment measure (IPPA-R), combined with attachment being addressed as part of the interviews with adoptive parents in Waves 2 and 3 of the study. As such, it needs to be acknowledged that our approach will be less definitive than the application of a full attachment interview, such as the Child Attachment Interview (CIA) (Shmueli-Goetz, Target, Datta, & Fonaghy, 2000).

Despite these potential limitations, there are several strengths that should be emphasised. The current article has utilised data from three waves of the study over a 14-year period, including both qualitative and quantitative data, and from the perspective of both children and parents, something that is very rare within this field of research. As such, we would argue that this has enabled a sufficiently comprehensive account of the lives of these children to be developed from entry to care through to the teenage years. Furthermore, the data that was collected from adoptive parents and children was not focused singularly on the day of data collection but required a reflection of experience over a period of time, either since adoptive placement or since previous research visit.

5.2. Implications for policy and practice

It is clear from the findings highlighted within this article that adoption is a successful alternative placement option for young children in the care system for whom Court decisions have been taken that their birth parents are unable to care for them through their childhood. The capacity of these adoptive placements to help children overcome possible early psychological trauma and manage the challenges of either pre-birth developmental injury and/or inherited intellectual disability, is well established.

However, there were a number of issues raised within this article that highlight areas for improvement. First, there were a number of instances where children may have experienced psychological trauma due to the removal from an established foster placement to an adoptive placement. It is recognised that there can be complex processes at play that can mitigate against early placement of children in care within adoptive placements, such as when parents are rightly being given opportunities to demonstrate their capacity to parent and be assessed in terms of their cognitive capacity within the court process, that can be protracted (Kelly & McSherry, 2002). However, greater efforts to expedite the placement of children within their adoptive placements as early as possible should be made, and where not possible, to support the maintenance of well-established relationships with foster carers/parents for these children following their adoption.

Second, the evidence of birth parents being psychologically present in the children's lives in a way that can create feelings of ambiguity and sadness, suggests that more needs to be done to help adoptive children understand their pasts and their journey to adoption. Given the sensitivities involved, particularly in circumstances where children may have been harmed through the actions or inactions of birth parents, it would be important that this support be delivered by specifically trained practitioners, who can work at the adopted child's pace, and in a developmentally appropriate way (Fargas Malet & McSherry, 2021).

This forms part of a growing literature which calls for specialised mental health support services to be provided to adopted children at all stages of adoption, including post-adoption (Atkinson, 2020; Brodzinsky, 2013; Lee, Kobulsky, Brodzinsky, & Barth, 2018). Another way in which this ambiguity and/or sadness could be mitigated is the potential scope to consider face-to-face contact with member(s) of a child's birth family where it will not be harmful to the child and where a member of the birth family has something positive to offer. This should be decided upon on a case-by-case basis and where it may be deemed to complement a child's relationship with their adoptive family (Neil, 2018).

Third, it was clear from almost all of the case studies that the early stages of adoptive placement were challenging. Whilst these did settle relatively quickly in some instances, they tended to persist where the child suffered from FASD or some form of learning disability. The challenges were particularly heightened in relation to the children's health and education. Within the context of Northern Ireland, it remains the case that there are no formalised support services provided to adoptive families by Social Services,

beyond supporting court-mandated contact arrangements, or ad-hoc and time-limited packages to address particular challenges. However, it is very timely that the *Adoption and Children Bill* has just been approved by the Northern Ireland legislative assembly (March 2022), with formalised plans to provide post-adoptive support to adoptive families (DoH, 2022). The hope is that this legislative intent will translate into action

For all intents and purpose, adoptive parents are required to address the often-complex challenges raised by their children's physical and mental health in the same way as any other parent in the community would be expected to do in similar circumstances. It needs to recognised and acknowledged that this is a situation that some adoptive parents prefer, the complete separation from Social Service support and monitoring. However, the majority of adoptive parents included in the current study indicated that they would welcome support where needed (McSherry et al., 2013).

The crux of this issue is simple. In the absence of adoption as a long-term placement option for children in care, local authorities would maintain full parental responsibility for these children and would be required by legal statute to ensure that all their needs were being met. In effect, adoptive parents release the burden of responsibly for the care of children with often complex and challenging needs from local authorities and place this burden on themselves. We would argue that they should not be expected to carry these responsibilities alone, despite the undeniable love and commitment they have for their children.

As such, we recommend the establishment of a formal link worker for every child adopted from the care system, whose singular responsibly would be to support the adoptive parents in any way that they can with meeting the health and educational needs of the child. This should also be for as long as this is deemed necessary by the parent and/or the child when they reach an age to make this decision for themselves. There is an old saying that you can't drink from an empty cup and our conversations with adoptive parents who were struggling day and daily to meet the complex health and educational challenges of their children indicated that many were thirsting for the type of support being suggested here.

6. Conclusion

In preparing this article, we were faced with a relatively straight-forward task; to identify examples of psychological trauma in the lives of a group of 10 adopted children who were part of our study cohort and to highlight the source of any trauma identified. The findings indicate that the source of most examples of possible psychological trauma was the pre-care period. This resulted in behavioural and emotional difficulties for children in the early stages of placement, with these issues settling and resolving over time, and with the children becoming securely attached and happy in their lives. There were, however, some examples where children had potentially been traumatised when being taken from well-established foster homes to adoptive placements.

It was also the case that many children had complex health and developmental difficulties, resulting from in utero development harm, that superseded any concerns about possible early psychological trauma, and that were a daily struggle for the children and their adoptive parents. However, in those instances, and despite the difficulties and challenges faced, the children were still able to develop secure attachments with their adoptive parents that persisted in the teens, and where the children stated that they were happy with their lives. In summary, the findings affirm the capacity of adoption to help children who have experienced early psychological trauma to recover from those difficulties, and to provide a home for those suffering from a range of disabilities where they feel content and happy with their lives.

Yet, even though these children are being supported by adoptive parents as best as they can, it is clear that more could be done by local authorities to support these families, particularly when dealing with very challenging health and educational needs. Hence, our recommendation for the establishment of a link worker for the adoptive parents of every child, with a particular focus on addressing the health and educational needs of the child.

6.1. Tribute

Finally, we want to pay a heart-felt tribute to Professor Sir Michael Rutter, the longstanding Chair of the study Scientific Advisory Committee, who very sadly passed away on the 23rd October 2021. He strongly influenced the conceptual, methodological and theoretical development of the study, so that it could make a useful contribution to our understanding of the lives of vulnerable young children and how best to ensure they are provided with environments that help to release their full potential. His ever thoughtful, insightful and supportive advice and guidance over the years has helped ensure the success of the study. May he rest in peace.

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References

Adoption UK. (2021). The adoption barometer. A stocktake of adoption in the UK. https://www.adoptionuk.org/Handlers/Download.ashx?IDMF=a5226daa-dc16-4d9f-a498-0f9ff7ab0d9e.

Afifi, T. O., & MacMillan, H. L. (2011). Resilience following child maltreatment: A review of protective factors. *The Canadian Journal of Psychiatry, 56*, 266–272. https://doi.org/10.1177/070674371105600505

Anthony, R. E., Paine, A. L., & Shelton, K. H. (2019). Adverse childhood experiences of children adopted from care: The importance of adoptive parental warmth for future child adjustment. *International Journal of Environmental Research and Public Health, 16*, 2212. https://doi.org/10.3390/ijerph16122212

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427–454. https://doi.org/10.1007/BF02202939

Atkinson, A. J. (2020). Adoption competent clinical practice. In *The Routledge handbook of adoption* (pp. 435–448). Routledge.

Baden, A. L. (2016). "Do you know your real parents?" And other adoption microaggressions. *Adoption Quarterly, 19*, 1–25. https://doi.org/10.1080/10926755.2015.1026012

Boss, P. G. (1980). Normative family stress: Family boundary changes across the life-span. *Family Relations, 39*, 350–373.

Boswell, S., & Cudmore, L. (2017). Understanding the 'blind spot': When children move from foster care into adoption. *Journal of Child Psychotherapy, 43*(2), 243–257.

Brodzinsky, D. M. (2011). Children's understanding of adoption: Developmental and clinical implications. *Professional Psychology: Research and Practice, 42*, 200. https://doi.org/10.1037/a0022415

Brodzinsky, D., & Palacios, J. (2005). *Psychological issues in adoption: Research and practice*. Connecticut: Praeger Publishers/Greenwood Publishing Company.

Brodzinsky, D. (2013). *A need to know: Enhancing adoption competence among mental health professionals*. New York, NY: Donaldson Adoption Institute.

Brodzinsky, D., Gunnar, M., & Palacios, J. (2021). Adoption and trauma: Risks, recovery, and the lived experience of adoption. *Child Abuse & Neglect*. https://doi.org/10.1016/j.chiabu.2021.105309 (In press, corrected proof).

Brown, A., Waters, C. S., & Shelton, K. H. (2019). The educational aspirations and psychological well-being of adopted young people in the UK. *Adoption & Fostering, 43*, 46–59. https://doi.org/10.1177/0308575919826900

Butchart, A., Putney, H., Furniss, T., & Kahane, T. (2006). *Preventing child maltreatment: A guide to taking action and generating evidence*. Geneva: World Health Organisation (WHO).

Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.

DeJong, M., Hodges, J., & Malik, O. (2016). Children after adoption: Exploring their psychological needs. *Clinical Child Psychology and Psychiatry, 21*, 536–550. https://doi.org/10.1177/1359104515617519

Department for Children, S.a. F. (2018). *Working together to safeguard children: A guide to inter-agency working to safeguard and promote the welfare of children*. London: DCSF.

Department of Health. (2022). *Adoption and Children (Northern Ireland) Bill*. Belfast: Department of Health (Northern Ireland).

Fargas Malet, M., & McSherry, D. (2021). The emotional nature of birth family relationships for care-experienced and adopted young people: A longitudinal perspective. *Journal of Family Issues, 42*(10), 2263–2288. https://doi.org/10.1177/0192513X20978439

Featherstone, B., Gupta, B., & Mills, S. (2018). *The role of the social worker in adoption – Ethics and human rights: An enquiry*. Birmingham: British Association of Social Workers (BASW).

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine, 14*, 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Gartland, D., Riggs, E., Muyeen, S., Giallo, R., Afifi, T. O., MacMillan, H.Brown, S. J., … (2019). What factors are associated with resilient outcomes in children exposed to social adversity?A systematic review. *BMJ Open, 9*, Article e024870. https://doi.org/10.1136/bmjopen-2018-024870

Goodman, R. (2001). 'Psychometric properties of the strengths and difficulties questionnaire (SDQ). *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 1337–1345.

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*, 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Goodman, R., & Scott, S. (1999). Comparing the strengths and difficulties questionnaire and the child behaviour checklist: Is small beautiful? *Journal of Abnormal Psychology, 27*, 17–24.

Grotevant, H. D., & McDermott, J. M. (2014). Adoption: Biological and social processes linked to adaptation. *Annual Review of Psychology, 65*, 235–265. https://doi.org/10.1146/annurev-psych-010213-115020

Gullone, E., & Robinson, K. (2005). The inventory of parent and peer attachment—Revised (IPPA-R) for children: A psychometric investigation. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice, 12*, 67–79. https://doi.org/10.1002/cpp.433

Hornfeck, F., Bovenschen, I., Heene, S., Zimmermann, J., Zwönitzer, A., & Kindler, H. (2019). Emotional and behavior problems in adopted children: The role of early adversities and adoptive parents' regulation and behavior. *Child Abuse & Neglect, 98*, Article 104221. https://doi.org/10.1016/j.chiabu.2019.104221

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C.Dunne, M. P., … (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*, e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Jeske, P. J. (1985). Piers Harris children's self concept scale. In I. V. Jr (Ed.), *Ninth mental management yearbook*. Lincoln: University of Nebraska, Lincoln.

Juffer, F., & Van Ijzendoorn, M. H. (2005). Behavior problems and mental health referrals of international adoptees: A meta-analysis. *JAMA, 293*, 2501–2515. https://doi.org/10.1001/jama.293.20.2501

Kelly, G., & McSherry, D. (2002). Adoption from care in Northern Ireland: Problems in the process. *Child and Family Social Work, 7*(4), 297–309. https://doi.org/10.1046/j.1365-2206.2002.00252.x

Lee, B. R., Kobulsky, J. M., Brodzinsky, D., & Barth, R. P. (2018). Parent perspectives on adoption preparation: Findings from the modern adoptive families project. *Children and Youth Services Review, 85*, 63–71.

Masten, A. S., & Barnes, A. J. (2018). Resilience in children: Developmental perspectives. *Children, 5*, 98. https://doi.org/10.3390/children5070098

McAnee, G., Shevlin, M., Murphy, J., & Houston, J. (2019). Where are all the males? Gender-specific typologies of childhood adversity based on a large community sample. *Child Abuse and Neglect, 90*, 149–159. https://doi.org/10.1016/j.chiabu.2019.02.006

McGhee, J., Bunting, L., McCartan, C., Elliott, M., Bywaters, P., & Featherstone, B. (2018). Looking after children in the UK: Convergence or divergence? *British Journal of Social Work, 48*, 1176–1198. https://doi.org/10.1093/bjsw/bcx103

McLaughlin, K. A., & Sheridan, M. A. (2016). Beyond cumulative risk: A dimensional approach to childhood adversity. *Current Directions in Psychological Science, 25*, 239–245. https://doi.org/10.1177/0963721416655883

McSherry, D. (2007). Understanding and addressing the "neglect of neglect": Why are we making a mole-hill out of a mountain? *Child Abuse and Neglect, 31*(6), 607–614. https://doi.org/10.1016/j.chiabu.2006.08.011

McSherry, D. (2011). Lest we forget: Remembering the consequences of child neglect - A clarion call to "feisty advocates". *Child Care in Practice, 17*(2), 103–113. https://doi.org/10.1080/13575279.2010.541426

McSherry, D., & Fargas Malet, M. (2018). The extent of stability and relational permanence achieved for young children in care in Northern Ireland. *Children Australia, 43*(2), 124–135. https://doi.org/10.1017/cha.2018.18

McSherry, D., Weatherall, K., Larkin, E., Fargas Malet, M., & Kelly, G. (2010). Who goes where?: Young children's pathways through care in Northern Ireland. *Adoption and Fostering, 34*(2), 23–37. https://doi.org/10.1177/030857591003400205

McSherry, D., Fargas Malet, M., & Weatherall, K. (2013). *Comparing Long-Term Placements for Young Children in Care: The Care Pathways and Outcomes Study - Northern Ireland*. London: BAAF.

McSherry, D., Fargas Malet, M., & Weatherall, K. (2016). Comparing long-term placements for young children in care: Does placement type really matter? *Children and Youth Services Review, 69*, 56–66. https://doi.org/10.1016/j.childyouth.2016.07.021

Neil, E. (2018). Rethinking adoption and birth family contact: Is there a role for the law? *Family Law, 2018*(September), 1178–1182.

Neil, E., Morciano, M., Young, J., & Hartley, L. (2020). Exploring links between early adversities and later outcomes for children adopted from care: Implications for planning post adoption support. *Developmental Child Welfare, 2*, 52–71. https://doi.org/10.1177/2516103220908043

Oh, D. L., Jerman, P., Marques, S. S., Koita, K., Boparai, S. K. P., Harris, N. B., & Bucci, M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics, 18*, 1–19. https://doi.org/10.1186/s12887-018-1037-7

Paine, A. L., Perra, O., Anthony, R., & Shelton, K. H. (2021). Charting the trajectories of adopted children's emotional and behavioral problems: The impact of early adversity and post-adoptive parental warmth. *Development and Psychopathology, 33*, 922–936. https://doi.org/10.1017/S0954579420000231

Palacios, J., Adroher, S., Brodzinsky, D. M., Grotevant, H. D., Johnson, D. E., Juffer, F.Tarren-Sweeney, M., … (2019). Adoption in the service of child protection: An international interdisciplinary perspective. *Psychology, Public Policy, and Law, 25*, 57. https://doi.org/10.1037/law0000192

Perry, B. (2009). Examining child maltreatment through a neurodevelopmental lens: Clinical applications of the neurosequential model of therapeutics. *Journal of Loss and Trauma, 14*, 240–255.

Piers, E. V. (1984). *Manual for the Piers-Harris children's self-concept scale*. Los Angeles, CA: Western Psychological Services.

Piers, E. V., & Herzberg, D. S. (2002). *Piers-Harris children's self-concept scale-second edition manual*. Los Angeles, CA: Western Psychological Services.

Raby, K. L., & Dozier, M. (2019). Attachment across the lifespan: Insights from adoptive families. *Current Opinion in Psychology, 25*, 81–85.

Racine, N., Eirich, R., Dimitropoulos, G., Hartwick, C., & Madigan, S. (2020). Development of trauma symptoms following adversity in childhood: The moderating role of protective factors. *Child Abuse & Neglect, 101*, Article 104375. https://doi.org/10.1016/j.chiabu.2020.104375

Rutter, M., & the English and Romanian Adoptees Team. (1998). Developmental catch-up and deficit following adoption after severe global early privation. *Journal of Child Psychology and Psychiatry, 39*, 465-371.

Rutter, M., Beckett, C., Castle, J., Kreppner, J., Stevens, S., & Sonuga-Barke, E. (2009). *Policy and practice implications from the English and Romanian (ERA) study: Forty-five key questions*. London: BAAF.

Shmueli-Goetz, Y., Target, M., Datta, A., & Fonaghy, P. (2000). *Child Attachment Interview (CAI) coding and classification manual, version IV*. London: The Sub-Department of Clinical Health Psychology, University College London (UCL).

Tenenbaum, A., Mandel, A., Dor, T., Sapir, A., Sapir-Bodnaro, O., Hertz, P., & Wexler, I. P. (2020). Fetal alcohol spectrum disorder among pre-adopted and foster children. *BMC Pediatrics, 20*, 275. https://doi.org/10.1186/s12887-020-02164-z

Tung, I., Christian-Brandt, A. S., Langley, A. K., & Waterman, J. M. (2020). Developmental outcomes of infants adopted from foster care: Predictive associations from perinatal and preplacement risk factors. *Infancy, 25*, 84–109. https://doi.org/10.1111/infa.12319

Van den Dries, L., Juffer, F., Van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2009). Fostering security? A meta-analysis of attachment in adopted children. *Children and Youth Services Review, 31*, 410–421. https://doi.org/10.1016/j.childyouth.2008.09.008

Van der Kolk, B. A., & Fisler, R. (1995). Dissociation and the fragmentary nature of traumatic memories: Overview and exploratory study. *Journal of Traumatic Stress, 8*, 505–525.

Van IJzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller Memorial Lecture 2006: Adoption as intervention: Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry, 47*, 1228–1245. https://doi.org/10.1111/j.1469-7610.2006.01675.x