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Intergenerational transmission of conflict-related trauma in Northern Ireland: a
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Abstract

Intergenerational transmission of trauma has become a key term to describe the impact that traumatic events personally experienced by one generation can have for the subsequent generation. In Northern Ireland, violent conflict raged between 1969 and 1998, when ceasefires were agreed and a peace process begun. This study explored to what extent (if any) parents' experiences and views of those violent times influenced how children born after the peace agreement perceived life in this society. Parents completed a questionnaire, and their children (9-11 year olds) were asked to draw two pictures, one depicting Northern Ireland now (i.e., post-ceasefire) and another one depicting Northern Ireland before they were born (i.e., pre-ceasefire).

Children's behaviours and awareness of the conflict emerged as being influenced not only by their parents' experiences and narratives, but also by their age, gender, and contextual factors. Parental narrative about the violence was in turn influenced by individual learning history, the child's age and gender, and by present circumstances. A behaviour analytic approach to intergenerational transmission of trauma is offered.

Intergenerational trauma is the term used for the observation that trauma experienced directly by one generation (e.g., holocaust survivors or witnesses of other kinds of violence) can impact on the mental health of their offspring. The underlying psychological or behavioural processes are ill understood, and we offer a behaviour analytic interpretation, by conducting a contingency analysis starting with known psychological principles (Keenan & Dillenburger, 2012). Behaviour analysis acknowledges that language-able humans learn many behavioural repertoires through talking to each other, giving instructions, and making rules (i.e., verbal and vocal behaviour), where the “speaker” specifies functional contingencies and the “listener” learns vicariously, without having to be exposed directly to these contingencies (Kerr & Keenan, 1997). It is understood that behaviour learned via instruction is topographically and functionally different from behaviour that is directly contingency-shaped (Skinner, 1969).

Northern Ireland (NI) serves as a good test bed to explore how intergenerational transmission of trauma can be understood through a behaviour analytic understanding of verbal behaviour and narrative, and to explore the role that multicultural diversity (in terms of socio-economic area, school, age, gender) plays in the process. The relatively recent history of protracted community violence and trauma, colloquially known as “The Troubles”, started in 1969. The 1994/95 ceasefires led to a peace agreement in 1998 (called the “Good Friday Agreement”), and since then, the levels of violence have decreased dramatically. The Troubles had enormous social, psychological, ideological, and economic costs: over 3,600 people were killed, over 40,000 were injured (Fay, Morrissey, & Smyth, 1998; Bloomfield, 1998; McKittrick, Kelters, Feeney, Thornton, & McVea, 2007), and many more were intimidated and displaced (O’Reilly & Stevenson, 2003). In a population of just over 1.6 million, it would be difficult to escape directly or indirectly experiencing the Troubles. However, it must be acknowledged that the most severe consequences of the conflict have

not been experienced by everybody living in Northern Ireland in the same degree, with the same intensity, or across time. In terms of location, in some areas, families experienced multiple bereavements and were exposed to numerous violent incidents, while other areas in Northern Ireland have almost been untouched by the violence. For instance, the majority of the Troubles-related deaths occurred in certain urban socially disadvantaged areas, while coastal and more affluent areas were less affected.

Despite significant investment into support services for victims/survivors in the late 1990s and early 2000s, the effectiveness of these services has been relatively insignificant, and some people in Northern Ireland today still experience very poor psychological health, frequent nightmares, anxiety, fear, flashbacks, high suicide rates, and a reluctance to talk about traumatic events for fear of causing distress (Dillenburger, Fargas, & Akhonzada, 2008). If the emotional consequences of conflict (e.g., suspicion, fear and anger) are transmitted to future generations, intergenerational trauma is likely to 'freeze people and groups in the past, and make transformation to more just, equal and peaceful society less possible' (Burrows & Keenan, 2004, p. 121).

The question addressed in this paper is how parental narrative about the Troubles (i.e., providing verbal contingency-specifying stimuli) is related to children's experience and awareness of trauma and violence. Furthermore, we report on the relationship between children's awareness of violence and their schooling (and socio-economic area), age, and gender.

Intergenerational transmission of trauma

Interest in intergenerational transmission of trauma emerged from anecdotal reports of similar levels of post-traumatic mental health problems in Holocaust survivors and subsequent generations with no first-hand experience of trauma (Daud, Skoglund, & Rydelius, 2005; Fonagy, 1999; Srour, 2005). In Northern Ireland, clinical levels of post-

traumatic stress were found in the off-spring (second generation) of those who witnessed directly the “Bloody Sunday” (i.e., shooting of 13 civilians during a civil rights demonstration in 1972) (Shevlin & McGuigan, 2003; McGuigan & Shevlin, 2010).

In a search for explanations, a number of theoretical propositions have been advanced. Kellermann (2001) distinguishes four different theoretical models: psycho-dynamic and relational; socio-cultural; family systems and communication; and biological models of transmission. Psycho-dynamic models have claimed that the child unconsciously absorbs the repressed experiences of the survivor parent (e.g., Volkan, 1997). Socio-cultural and socialisation models purport that personal prohibitions, taboos and fears are formed by first-hand traumata and take effect on family systems. For instance, parenting styles of traumatised parents have been found to affect the mental health of their children in a negative way (transmitting trauma symptoms) (Schwerdtfeger, Larzelere, Werner, Peters, & Oliver, 2013), but also in a positive way (transmitting resilience) (Braga, Mello, & Fiks, 2012). Communication models suggested that both, the child and the parents, try to shield one another from painful experiences. For instance, the parents’ silence has been identified as one of the mechanisms by which the effects of trauma are transmitted from parents to children. This silence can cause children to fantasise about the actual events (Daud et al., 2005). Biological or genetic models of transmission have proposed that traumatisation can be passed on through a genetic or bio-chemical predisposition (i.e., a kind of “psychological DNA”). It is argued that children of parents suffering from PTSD might be born less able to metabolize stress, thus more susceptible to PTSD. Thus, epigenetics (i.e., the study of heritable changes in gene expression) is becoming a field regularly used to explain transgenerational transmission of trauma. For instance, cortisol levels in infants of mothers who developed PTSD following exposure to the September 11th World Trade Centre’s attacks were found to be lower than those of mothers who did not develop PTSD (Yehuda, Engel, Brand, Seckl,

Marcus, & Berkowitz, 2005). These findings are similar to observations in Holocaust's survivors and other people who experienced traumatic events (Yehuda, Daskalakis, Lehrner, Desarnaud, Bader, et al., 2014). In addition, neurobiological brain pathways are also thought to transmit trauma unintentionally and unconsciously (Herman, 1997). Finally, integrative views suggest that many different mitigating and aggravating factors affect symptoms of travail in a child (Kellermann, 2001).

While these theories are generally based on careful observations of behaviour, circular reasoning and reifications hamper their bona fide explanatory value (i.e., the child is traumatised because s/he shows certain trauma related behaviours – Why is s/he showing these behaviours? – because s/he is traumatised) (Keenan & Dillenburg, 2012). This means that a new approach may be warranted. We propose that the science of Behaviour Analysis offers the foundation of a comprehensive new understanding of intergenerational transmission of trauma. Behaviour analysis embraces generality, testability, external validity, accuracy, utility, and parsimony (Schlinger, 1995). Relying on well-established principles of behaviour (Cooper, Herron, & Heward, 2009), public as well as private (i.e., emotions and cognitions) behaviours are explored using detailed functional contingency analyses (cf. Dillenburg & Keenan, 2012). For example, the fact that across generations, trauma-related memories are transmitted through stories, films, books, etc. is viewed as verbal behaviour of the “speaker” that impacts on the behaviour of a linguistically competent “listener” (i.e., rule-governed behaviour, which is behaviour controlled by a verbal antecedent) (Place, 1988). However, rule-governed behaviour is qualitatively different from behaviour learned through first-hand experience (i.e., contingency-shaped behaviour), which is illustrated by the phenomenon that the behavioural repertoire of the second generation is never exactly the same as that of the first generation (Dillenburg, 2008). In other words, historical,

collectively and socially transmitted “memory” is never as rich and individually meaningful as personally experienced biographies (Halbwachs, 1992).

While some research has focused on children’s perceptions of violence and attitudes towards the Troubles (McLernon, 1998; Muldoon, 2003; Connolly & Healey, 2004; McGrellis, 2004), generally the intergenerational link, schooling, socio-economic status, age or gender have not been considered. Thus, the main aim of this study was to examine how parents’ experiences of the Troubles were transmitted to their children, as expressed in the children’s drawings (Machón, 2009), and if school, socio-economic context, child’s age or gender played a part.

In this paper, we explore the following questions:

- 1) To what extent are traumatic experiences of the NI conflict transmitted from one generation to the next (i.e., from parent to child)?
- 2) What other contextual factors (e.g., schooling, age, and gender) influence children’s knowledge of a violent past?

Data reported here were part of a larger study of 179 Northern Irish children, not all of whose parents took part. Children’s data were reported elsewhere (Fargas-Malet & Dillenburger, 2014). The present paper reports on the 73 children whose parents returned the questionnaires.

Method

Participants

Participants included 73 Northern Irish children (41 girls and 32 boys) born after the 1998 Agreement who attended primary schools. About half of the children ($n = 38$) were

aged 9-10 years (Primary School Year 6; P6), and 35 of the children (48%) were aged 10-11 years (Primary School Year 7; P7).

Northern Ireland has a segregated school system; where state controlled schools are mainly attended by Protestant children; maintained schools are mainly attended by Catholic children; and integrated schools are attended by both. The children attended three different types of schools: 32 of the children came from co-educational (i.e., boys and girls taught together) controlled schools from urban socially disadvantaged areas; 22 of the children attended gender-segregated maintained schools (one all-boys school and one all-girls school) in urban socially disadvantaged areas; and 19 of the children went to a rural integrated school in a more affluent area.

Parents of these 73 children returned the questionnaire (a response rate of 41% of the total study population; total $n = 179$); 58 were mothers, 14 were fathers, and one was a stepfather. Most of the parents (78%) were over 30 years old, while 16 of them (22%) were under 30 years of age. While similar numbers identified themselves as British ($n = 19$), Irish ($n = 19$) and Northern Irish ($n = 24$), response rates differed somewhat according to school type: maintained schools had a response rate of 31% ($n = 22$), controlled schools had a response rate of 45% ($n = 32$), and the integrated school had a response rate of 51% ($n = 19$).

Research Tools

For the child participants, the research tool comprised two A4-sized sheets of white paper, each with a type-written heading along the top; one saying “Living in Northern Ireland now” (Picture A) and the other one saying “Living in Northern Ireland before I was born” (Picture B). In order not to sensitise children to issues they may not be aware of, words such as “violence”, “war”, “the Troubles”, or “peace” were avoided (Usta & Farver, 2005). In order to avoid erroneous interpretations of the drawing, children were asked for a brief

description after they finished drawing: “Can you tell me a bit about your drawing?” A digital tape-recorder was used to record the children’s verbal descriptions.

The parent/guardian questionnaire contained questions about general demographics; national and political identity; experience of the Troubles (i.e. the type of experiences, as to whether they or a close family member/friend had been injured, attacked, bereaved, etc. or not; and how they coped); and parent-child communication, e.g. questions to find out whether or not they had talked about their experiences, how and how often they had talked to their child about the Troubles, and how easy or difficult they had found talking about the Troubles. The parent/guardians were also asked to complete the General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988) and the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997).

The 12-item General Health Questionnaire (GHQ-12) has been widely used in Northern Ireland (ARK 2013; Dillenburg et al., 2008) and internationally (Goldberg, McDowell, & Newell, 1996) to identify short-term changes in adult mental health. It has also been extensively psychometrically validated in general and clinical populations worldwide (Hankins, 2008). Using a binary coding system, 4/12 is considered the threshold for considering the respondent a “case” recommending further psychological assessment (approx. 17% of a general NI population sample score >4; NILTS 2006).

The Strengths and Difficulties Questionnaire (SDQ) is a brief screening and assessment tool completed by parents and teachers regarding behaviours, emotions, and relationships of 4-16 year-old children (Goodman, 1997). It includes 25 questions equally distributed between emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behaviour; scored positively (“Not true” = 0, “Somewhat true” = 1, and “Certainly true” = 2; scoring adjusted for negatively framed questions). The total score (excluding pro-social behaviour category) being used to distinguish between “normal” (0-15),

“borderline” (16-19), or “abnormal” (20-40); the latter two categories each are found in approximately 10% of a community sample. The psychometric properties of the SDQ have been found to be strong by a recent review (Stone et al., 2010).

Procedure

General consent for child participation was given in loco parentis by the Principal of each participating school, with an opt-out option for parents. Research information sheets and consent forms were sent to all parents of P6 and P7 children in the participating schools. Children whose parents completed the opt-out option did not take part in the study.

The research setting was the children’s classroom at a time recommended by their teacher. Data collection took one hour. The researcher was introduced by the teacher and gave the following instruction: “We want to find out about what it is like for you to grow up in Northern Ireland, and how it was like for your parents to grow up here, and if they didn’t grow up here, for the people who were here before you were born”. Children who assented to taking part were told that they could withdraw at any time without repercussion. They were then asked to draw Picture A and Picture B, while seated at their usual tables. In order to avoid inaccurate interpretation of the completed drawing, the children were asked to briefly explain their pictures. Each child’s response was tape-recorded, in a quiet open-plan reading corner of their classroom.

A sealed envelope containing parent-related research tools (i.e., information sheet, consent form, and parent questionnaire) was sent home to the children’s parents. Parents were asked to complete and return questionnaires and consent forms to the school in sealed envelopes within one week.

Analysis

Children’s pictures were scanned/ digitised and analysed using content analysis adapted from Krippendorff (2004). The descriptive responses were input verbatim into the qualitative

analysis package NVivo8 for PCs (Wiltshier, 2011). Recurring themes were used to develop detailed, mutually exclusive, and exhaustive codes for categorisation of the drawings. For example, “violence” was defined as ‘an act or behaviour that causes damage or injury, or human figures engaged in verbal threats or activity labelled as fighting, hitting, someone starting a fire, or robbery’ (Lewis & Osofsky, 1997, p.283); and this category also included images like soldiers, army barracks or tanks, even if not involved in violence in the picture. Figure 1 is an example of a picture that was considered not to contain “violence”, while Figure 2 shows an example of a picture that was categorised as containing “violence”. A detailed description of all categories and a full analysis of the drawings can be found elsewhere (Fargas-Malet & Dillenburger, 2014).

Figure 1: ‘Living in NI before I was born’ with no violence



Figure 2: ‘Living in NI before I was born’ with violence



All drawings and comments were analysed by the first author. In addition, 10% of the pictures were blind-coded independently by a second coder. Inter-observer agreement was 89% (prior to data input, code allocation was mutually agreed for the remaining 11%). Data from the drawings were entered into SPSS for Windows, version 15.0 (SPSS INC.; Chicago 2006). The data from the parents' questionnaires were entered into an SPSS file and a series of descriptive statistics (i.e. cross-tabulations, frequencies, means and standard deviations) were conducted. Some Pearson correlation coefficients (r), chi-square tests and One-Way ANOVAs were also calculated. Open-ended questions were analysed using content analysis and coded into different categories.

The two SPSS files (i.e. children's data and parents' data) were merged to carry out One-Way ANOVAs and chi-square tests to explore associations between both data sets. Pearson correlation coefficients were calculated focusing on the relationship between parents' mental health, as measured by the GHQ-12 score, and children's behavioural problems, as measured by SDQ scores. Regression analyses were not possible due to the power issues. Thus, the results reported here are descriptive in nature, because of the number of participants involved in the study.

Results

Effect of the Narrative: Talking about the Troubles

Over half of the parents ($n = 34$) talked with their child about their experience of the Troubles fully and openly, including the child asking questions, while others had made only a brief comment (18%). These conversations had happened a few times in many families (27%), but only once or twice in some cases (16%). Most of the parents had found it either easy or very easy to talk to their child about the Troubles (34%) or neither easy nor difficult (26%). However, ten parents (14%) found it a bit difficult, difficult, or very difficult/impossible.

Nearly half of the parents ($n = 29$) had not talked with their child about the Troubles, either feeling that it was not necessary for the children to know, that they were too young, or that the child had not asked about it. They expressed these views as follows:

She doesn't need to know.

Too young to understand and I don't want to implant my thoughts and feelings without her having her own thoughts about what goes on in this country.

It hasn't come up in conversation.

Don't want my kids to know the hurt and pain of the Troubles.

A number of factors seemed to influence parental communication about the Troubles. The age of the child was near significantly associated with parental communication ($p < 0.1$). Not surprisingly, parents raised the issues more often with older children (10-11 year old) than with younger ones (9-10 year old) ($\chi^2 (1, N = 63) = 2.88, p = .89$). Parents of older children also generally found it easier to talk when compared to parents of younger children ($\chi^2 (2, N = 54) = 4.99, p = .82$).

Parents who had recently experienced stressful event/s were significantly more likely to talk with their children about the Troubles than those who had not ($\chi^2 (1, N = 50) = 6.65, p = .01$), although many of them found it difficult (45%). Personal experience of the Troubles seemed to have made a difference when it came to talking to the children; 55% of the parents who experienced a family death, 36% who experienced family injury, and 37% whose husband/partner or themselves had direct experiences of violence found it difficult to talk with their child, whereas only 7-9% of parents who had no such experiences had difficulties talking to their children about the Troubles. Where the child had first-hand experience with sectarian incident/s, parents found it much harder to talk about the Troubles than if the child had no such experience ($\chi^2 (2, N = 51) = 13.51, p = .001$).

Parental mental health and child's strength and difficulties

Parental GHQ-12 scores were significantly associated with child SDQ scores with regard to total difficulties ($r(69) = .25, p < .05$) and emotional symptoms ($r(69) = .33, p < .01$), i.e., poorer parental mental health was related to higher levels of child behaviour problems, specifically with regard to emotions. Children whose parents who were categorised as "cases" in the GHQ-12 (i.e., scored >4) presented with significantly higher SDQ scores than children of parents who scored lower on the GHQ-12 (<4), in terms of emotional symptoms ($F(1, 69) = 4.82, p = .03$) and hyperactivity ($F(1, 69) = 4.40, p = .04$).

Parents who had first-hand experience of the Troubles ($n = 54$) scored significantly higher in the GHQ-12 than those without such experiences ($F(1, 70) = 5.74, p = .02$). The correlations between the GHQ-12 of parents who had first-hand experience of the Troubles and their children's SDQ scores were highly significant with regard to total difficulties ($r(52)$

= .38, $p < .01$); emotional symptoms ($r(52) = .38, p < .01$); and hyperactivity ($r(52) = .36, p < .01$).

Children who had experienced sectarian incident/s presented near significantly higher SDQ scores in terms of SDQ emotional symptoms than children with no such experience ($F(1, 65) = 3.35, p = .07$).

More children who depicted violence in one/both pictures presented with borderline and abnormal SDQ scores for conduct problems, low levels of pro-social behaviour, and high levels of total difficulties (Table 1).

Table 1: SDQ by children drawing violence

		Violence (1/both pict)		Total
		Yes (%)	No (%)	
SDQ conduct problems	Normal score	19 (39)	30 (61)	49
	Borderline score	8 (73)	3 (27)	11
	Abnormal score	5 (45)	5 (42)	11
SDQ pro-social behaviour	Normal score	27 (43)	36 (57)	63
	Borderline score	2 (50)	2 (50)	4
	Abnormal score	3 (75)	1 (25)	4
SDQ total difficulties	Normal score	26 (43)	35 (57)	61
	Borderline score	0	1	1
	Abnormal score	6 (67)	3 (33)	9

Communication about conflict and depiction of violence

Children whose parents had talked with them about the Troubles scored near significantly lower than others, in terms of peer relationship problems ($F(1, 59) = 3.40, p = .07$). In other words, talking about the Troubles correlated significantly with lower levels of child behaviour problems.

Moreover, children of parents who found it difficult to talk about the Troubles scored significantly higher than others, in terms of emotional symptoms ($F(2, 49) = 8.30, p = .001$) and total difficulties ($F(2, 49) = 6.60, p = .003$). In other words, not talking about the Troubles correlated significantly with higher levels of child behaviour problems.

Talking about parental experiences of the Troubles was not significantly associated with depiction of violence in the children's pictures. The children of 53% of the parents who had talked about their experience of the Troubles and 34% of those who did not talk with their child depicted violence in one or both of the pictures (Table 2). Having said this, children's depiction of violence in Picture B ("Living in Northern Ireland before I was born") was significantly related to their parents' talking about the Troubles rather than not talking ($\chi^2(1, N = 63) = 4.15, p = .04$), and 70% of the children whose parents found it difficult to talk portrayed violence, compared to 52% of those whose parents found it easy.

Table 2: Parents' communication with children by children drawing violence

		Violence (1/both pict)		Total
		Yes (%)	No (%)	
Had parent talked with child	Yes	18 (53)	16 (47)	34
	No	10 (34)	19 (66)	29
	No answer	5 (50)	5 (50)	10
How the parent had talked with child	Make a comment	7 (54)	6 (46)	13
	Open conversation	9 (53)	8 (47)	17
Degree of difficulty parent find talking to their children	Difficult	7 (70)	3 (30)	10
	Neither easy nor difficult	3 (16)	16 (84)	19
	Easy	13 (52)	12 (48)	25

Four types of parent-child dyads emerged (see Table 3):

- Type 1: the parent had talked to their child about the Troubles and the child depicted violence in one or both pictures ($n = 18$);
- Type 2: the parent had talked about their experiences of conflict and the child did not depict violence in any of their pictures ($n = 16$);
- Type 3: the parent had not talked about their experiences of conflict and the child depicted violence in one or both pictures ($n = 15$); and

- Type 4: the parent had not talked about the Troubles and the child did not depict violence in any of their pictures ($n = 24$).

In terms of gender, more boys than girls depicted violence (69% vs. 31%), but more girls' than boys' parents had talked with them about the Troubles (67% vs. 33%). More boys than girls whose parents had not talked with them about the Troubles drew violent images (67% vs. 33%) (Type 3), but the same number of boys and girls whose parents had talked about the Troubles drew violence (Type 1).

Children who drew violence and whose parents had talked with them (Type 1) tended to be older (33% P6 vs. 67% P7), while children who did not draw violence and had parents who had not talked with them (Type 4) tended to be younger (71% P6 vs. 29% P7). Age was not a factor for children in the other two groups (Type 2 and Type 3).

Table 3: Violence and parent-child communication (identification of dyad type)

	Violence in one/both pictures	
	Yes	No
Talked with child	18 25% Type 1	16 22% Type 2
Not talked with child *	15 20% Type 3	24 33% Type 4

Most children in the integrated school living in a rural affluent area did not depict violence, regardless of whether their parents had talked with them about the Troubles ($n = 6$) or not ($n = 8$). Children who depicted violence mainly attended maintained schools ($n = 14$).

Parents who had relatively good mental health were either in Type 1 dyads (GHQ-12 mean score 2.2; 28% > 4) or in Type 4 dyads (GHQ-12 mean score 1.4; 12.5% > 4), while parents with poorer mental health were either in Type 2 (GHQ-12 mean score 4.4; 56% > 4)

or Type 3 dyads (GHQ-12 mean score 3.1; 27% > 4). This difference was nearly significant ($F(3, 69) = 2.56, p = .06$). Children in Type 1 and Type 4 dyads had the lowest SDQ mean scores (7.9 vs. 8.1 respectively) while children in Type 2 dyad and Type 3 dyads had a total SDQ mean score of 9.6 vs 11.1 respectively; five of the children in Type 3 dyads (36%) scored “abnormal”. Furthermore, the differences of SDQ score means for hyperactivity/inattention among the different types was nearly significant ($F(3, 67) = 2.26, p = .09$).

Discussion

Intergenerational transmission of trauma is thought to occur when traumatised parents pass on their ‘psychological burden’ to their children (Kellermann, 2001). In this study, we explored to what extent children’s behaviour problems and awareness about violence is related to their parents’ experiences of trauma and the part that parent-child communication, schooling, age and gender plays in the process. Despite its limitations, research reported here suggest that the process of intergenerational transmission of trauma is much more complex than previously thought (Daud et al., 2005; Fonagy, 1999; Srour, 2005).

Supporting previous research findings (Dillenburger, 1992; Merrilees, Cairns, Goeke-Morey, Schermerhorn, Shirlow, & Cummings, 2011), we found that the mental health of parents who had first-hand experience with trauma of the Troubles in Northern Ireland caused concern. Compared to others, their children displayed higher levels of problem behaviour, especially in the areas of emotionality and hyperactivity. This was particularly true for children of parents who were identified by the GHQ-12 as “cases”, and for those who experienced multiple Troubles-related traumata or additional recent stressful events. Clearly, these are important findings, given the adverse impact that trauma has on learning (McKee & Dillenburger, 2012).

It is tempting to conclude that we found confirmation of “trauma” being transferred to the next generation (Merrilees et al., 2011). However, these findings need to be viewed with caution, not only because parental mental health and child behaviour were both self-reported by parents, and self-report tools generally are notoriously flawed with problems of self-selection (e.g., Hawthorne Effect), but also because obviously correlation does not equate to causality. If these limitations are not taken seriously, there is the danger of mentalistic interpretation, including circular reasoning and reification (Keenan & Dillenburg, 2012). In other words, the cause of child behaviour problems may erroneously be sought in hypothetical constructs, such as “transmission” without recourse, to the child’s learning history or known behavioural principles.

To prevent drawing premature conclusions, we took behaviour product measures, i.e., we sought some indication of awareness of the Troubles from children, who were born after the ceasefires, through a drawing response. The majority of participating children had not been exposed to first-hand experiences of the Troubles (NB. we asked parents about their child’s exposure to trauma, and 86% were not aware of their child having experienced any sectarian incident or been affected by violence in any way), and thus awareness of violence expressed in their drawing would have to come from other sources, including the generation who had lived through the Troubles (i.e., the children’s parents).

Obviously, drawing violent images is not the same as traumatisation. Previously, researchers used children’s drawings to assess impact of political violence in Northern Ireland (McLernon & Cairns, 2001), but there were two major problems with this earlier research. The use of leading terms, such as “peace” or “war”, contaminated the findings, i.e., it should not have been a surprise that the children drew images related to peace and war when they had been asked to draw images of peace or war. Moreover, there was no assessment of the learning history of these children. As such, conclusions from this earlier

research must be viewed with extreme caution. In contrast, we took great care not to sensitise the children with trauma-related cues. We asked them about “Life in Northern Ireland” before and after they were born, and, considering that parents are the key providers of learning histories of young children, we included parental assessments.

We found that some children drew violent images while others did not. In order to assess the process of transmission, we asked parents if they had talked to their child about the Troubles, told them stories, i.e., if they had given their children a narrative. Not surprisingly, we found that many of the children whose parents had talked about the Troubles were aware of the presence of violence within their country’s past and present, i.e., they drew violence-related images without researcher-implemented cues (Type 1 dyads). In fact, parental communication with the child about conflict-related experiences emerged as the only statistically significant variable in terms of children’s depiction of violence, i.e., a significantly larger percentage of children whose parents had talked about trauma drew violence in Picture B (“Living in NI before I was born”), than those of parents who had not talked to their child. Again, the temptation would be to jump to the conclusion that talking about trauma (i.e., using the narrative) fosters the process of transmission of trauma. Yet, quite a large number of children whose parents had talked to them about the Troubles did not draw violent images in any of their pictures (Type 2 dyads). Thus, although they had been made aware of the violence, they did not portray violence in their drawings.

What about the children whose parents had not talked to them about the Troubles? We found that some of these children drew violent images (Type 3 dyads). At closer inspection, drawing violent images was related to a range of different contextual issues unrelated to parents talking about the Troubles, such as a child’s gender (i.e., boys drew more violent images than girls), age (i.e., older children drew more violent images than younger ones), and school type and socio-economic area (i.e., children who attended a maintained school in a

socially deprived area drew more violent images than children who attended the integrated school in a more affluent area).

Some of the children whose parents did not talk about the Troubles did not draw any violent images (Type 4 dyads). These children seemed to be oblivious to the Troubles, and their pictures seemed more influenced by the school history curriculum at the time, and peer imitation. Northern Irish history lessons in primary schools do not cover the Troubles, thus the pictures showed the Victorians or World War II, and three children who sat side-by-side in the same classroom drew the Titanic. Clearly, the children's own characteristics, learning history, and their present contingencies had an important role to play.

Narrative is widely viewed as necessary for "healing" trauma (Kelly, 2005). Much has been written about the negative effects of parents' silence, and how silence can transmit traumatic messages as powerfully as words (Ancharoff, Munroe, & Fisher, 1998; Dekel & Goldblatt, 2008; Op den Velde, 1998). In this study, we found different parental attitudes towards talking to children about violent past experiences. Over half of parents (54%) who had some experience of the conflict stated that they had talked to their children about these memories, even so most of them found it difficult, whereas others were reluctant to talk within the family, because they wanted to protect their children from the hurt, thought that their child was too young to know, or were adamant that it was best not to talk (Gilligan, 1997; Magill, Smith, & Hamber, 2009). However, a key finding was that most children who learned about the Troubles from the previous generations did much better behaviourally and emotionally than those whose parents did not talk about the Troubles, with the exception of children whose parents found it difficult to talk about the Troubles. At closer inspection, although differences were not statistically significant (one being nearly significant), we found that children in both of the "expected" dyads, i.e., children who drew violence and whose parents had talked about violence (Type 1 dyad) and children who did not draw violence and

whose parents had not talked about violence (Type 4 dyads) had fewer emotional and behavioural problems than children in the “unexpected” dyads, i.e., those who did not draw violence although their parents had talked about violence (Type 2 dyad) and those who drew violence although their parents had not talking about violence (Type 3 dyads). This could mean that child behaviour and emotional problems are more closely related to dissonance between parents and child, rather than transmission of trauma. It is also possible that these parents were particularly traumatised and that other mechanisms led to problem behaviours in their children (e.g., problematic or inconsistent parenting, or an authoritarian parenting style – Schwerdtfeger et al., 2013). But that is a question for future research. Thus, although the findings reported here are not conclusive and need to be confirmed by larger samples, they appear to suggest that not talking about own past violent experiences could be more harmful for some children than talking about it. This has important implications for parenting. Parents with experiences of the conflict need to think about whether it is best for their children to find out about violence and conflict through them or through other sources, such as peers, the media or school.

Some other key variables were found to be crucial in the transmission process. Although the Troubles are not covered in the primary school curriculum, the school attended by the children, and thus the socio-economic area where it was situated, seemed to play a part. In a segregated school system, it is entirely possible that less traumatised parents choose to send their child to integrated schools, and that therefore the impact of parenting is reflected in schooling. However, it also needs to be taken into account that the rural affluent area where the integrated school was located had been virtually untouched by the violence of the conflict whereas the socially deprived urban areas where the other schools were placed had been severely affected.

Although attitudes and viewpoints can be transmitted in various ways, the present study tapped only into oral history between parents and children (i.e., verbal behaviours), and future studies should explore other “transmission behaviours”, such as subtle modelling and imitation, stimulus equivalence, and relational frames, as well as explore verbal communication in more detail. In the meantime, findings reported here throw a new light on the idea of intergenerational transmission. It appeared that rather than “intergenerational” much of the transmission was intragenerational or related to factors outside of intergenerational communication. Individual differences in gender, age, peers, schooling and socio-economic area had much influence on prevalence of violence in the children’s pictures.

Clearly, while learning about traumatic experiences through verbal behaviour is important, and functions by describing contingencies that were in operation for parents at the time, it is different from learning through direct exposure to prevailing contingencies, that is contingency-shaped (directly experienced) behaviour. Children learn about the trauma of the past from their parents, but also from their school, neighbours and peers, as well as the media and other sources that were not explored here. Gender expectations also play a part in the expression of awareness of traumatic experiences of the past generation.

In sum, despite its limitations, this research has clear implications for research on intergenerational transmission of trauma and learning. The process of “transmission” has been exposed as neither linear nor mystical but instead, like all other behaviour, subject to known behavioural principles. Future research should establish more precisely the exact function of these behaviours.

References

- Ancharoff, M. R., Munroe, J. F., & Fisher, L. M. (1998). The legacy of combat trauma: Clinical implications of intergenerational transmission. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 257-276). New York: Plenum Press.
- Bloomfield, K. (1998). *'We Will Remember Them': Report of the Northern Ireland Victims Commissioner*, Sir Kenneth Bloomfield KCB, (April 1998). Belfast: The Stationery Office Northern Ireland.
- Braga, L. L., Mello, M. F., & Fiks, J. P. (2012). Transgenerational transmission of trauma and resilience: a qualitative study with Brazilian offspring of Holocaust survivors. *BMC psychiatry*, 12(1), 134.
- Burrows, R., & Keenan, B. (2004). Bearing witness: supporting parents and children in the transition to peace. *Child Care in Practice*, 10, 107-125.
- Connolly, P., & Healy, J. (2004). *Children and the conflict in Northern Ireland: The experiences and perspectives of 3-11 year olds*. Belfast: OFMDFM.
- Daud, A., Skoglund, E., & Rydelius, P. (2005). Children in families of torture victims: transgenerational transmission of parents' traumatic experiences to their children. *International Journal of Social Welfare*, 14, 23-32.
- Dekel, R. and Goldblatt, H. (2008). Is There Intergenerational Transmission of Trauma? The Case of Combat Veterans' Children. *American Journal of Orthopsychiatry*, 78, 281-289.
- Dillenburger, K. (1992). *Violent bereavement: Widows in Northern Ireland*. Avebury: Ashgate Publishing Company.
- Dillenburger, K. (2008). A Behavior Analytic Perspective on Victimology. *The Journal of Behavior Analysis of Offender and Victim Treatment and Prevention*, 1, 5-19.

- Dillenburg, K., Fargas, M. & Akhonzada, R. (2008). Evidence-based practice. An exploration of the effectiveness of voluntary sector services for victims of community violence. *British Journal of Social Work*, 38, 1630-1647.
- Fargas-Malet, M. & Dillenburg, K. (2014). Children Drawing Their Own Conclusions: Children's Perceptions of a 'Postconflict' Society. *Peace and Conflict: Journal of Peace Psychology*, 20, 135-149.
- Fay, M.T., Morrissey, M., & Smyth, M. (1998). *Mapping Troubles-Related Deaths in Northern Ireland 1969-1998*. Derry: INCORE.
- Fonagy, P. (1999). The transgenerational transmission of holocaust trauma. *Attachment and Human Development*, 1, 92-114.
- Gilligan, J. (1997). *Violence: Reflections on a national epidemic*. New York: Vintage Books.
- Goldberg, D., & Williams, P. (1988). *A User's Guide to the General Health Questionnaire*. Windsor: NFER-Nelson.
- Goldberg, D., McDowell, I., & Newell, C. (1996). *Measuring health: A guide to rating scales and questionnaires* (2nd ed.). New York: Oxford University Press.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581-586.
- Halbwachs, M. (1992). *On collective memory*. Chicago, IL: Chicago University Press.
- Herman, J. L. (1997). *Trauma and recovery: The aftermath of violence from domestic abuse to political terror*. New York: Basic Books.
- Hankins, M. (2008). The reliability of the twelve-item General Health Questionnaire (GHQ-12) under realistic assumptions. *BMC Public Health*, 8, 355.
- Keenan, M., & Dillenburg, K. (2012). *Behaviour Analysis: A Primer*. iBook on iTunes; <https://itunes.apple.com/us/book/behaviour-analysis-a-primer/id564540452?mt=11>

Kellermann, N. P. (2001). Transmission of Holocaust trauma - an integrative view.

Psychiatry: Interpersonal and Biological Processes, 64, 256-267.

Kelly, G. (2005). *'Storytelling' Audit: An Audit of Personal Story, Narrative and Testimony Initiatives Related To The Conflict in and about Northern Ireland*. Belfast: Healing Through Remembering.

Kerr, K. & Keenan, K. (1997). Rules and rule-governance: New directions in the theoretical and experimental analysis of human behaviour. In K. Dillenburger, O'Reilly, M., & Keenan, M. (Eds.), *Advances in Behaviour Analysis* (pp. 205-226). Dublin: University College Dublin Press.

Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology* (2nd ed). Thousand Oaks, CA: Sage.

Lewis, M., & Osofsky, J.D. (1997). Violent Cities, Violent Streets: Children Draw their Neighborhoods. In J.D. Osofsky (Ed.), *Children in a Violent Society* (pp.277-299). New York/London: The Guildford Press.

Machón, A. (2013). *Children's drawings. The genesis and nature of graphic representation. A developmental study*. Fibulas Publishers.

Magill, C., Smith, A., & Hamber, B. (2009). *The Role of Education in Reconciliation: The Perspectives of Children and Young People in Northern Ireland and Bosnia and Herzegovina*. Coleraine: University of Ulster.

McGrellis, S. (2004). *Pushing the Boundaries in Northern Ireland: Young People, Violence and Sectarianism*. London: London South Bank University.

McGuigan, K. & Shevlin, M. (2010). Longitudinal Changes in Posttraumatic Stress in Relation to Political Violence (Bloody Sunday). *Traumatology*, 16, 1-6.

- McKee, B. & Dillenburger, K. (2012). Effectiveness of child protection training for pre-service early childhood educators. *International Journal of Educational Research*, 53, 348-359
- McKittrick, D., Kelters, S., Feeney, B., Thornton, C., & McVea, D. (2007). *Lost Lives: The Stories of the Men, Women and Children who Died as a Result of the Northern Ireland Troubles*. Edinburgh: Mainstream Publishing.
- McLernon, F. (1998, PhD). *Northern Irish children's understandings of peace, war and strategies to attain peace*. Coleraine: University of Ulster.
- McLernon, F., & Cairns, E. (2001). Impact of political violence on images of war and peace in the drawings of primary school children. *Peace and Conflict: Journal of Peace Psychology*, 7, 45-57.
- Merrilees, C. E., Cairns, E., Goeke-Morey, M.C., Schermerhorn, A.C., Shirlow, P., & Cummings, M. (2011). Associations between mothers' experience with the Troubles in Northern Ireland and mothers' and children's psychological functioning: the moderating role of social identity. *Journal of Community Psychology*, 39, 60-75.
- Muldoon, O. (2003). Perceptions of stressful life events in Northern Irish school children: A longitudinal study. *Journal of Child Psychology and Psychiatry*, 44, 193-201.
- Northern Ireland Life and Times Survey (NILTS). (2006). *Healthcare Module: GHQ12 – caseness*. Retrieved from the Web 02/05/2013 www.ark.ac.uk/nilt/2006/Healthcare/
- Op den Velde, W. (1998). Children of Dutch war sailors and civilian resistance veterans. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 147-162). New York: Plenum Press.
- O'Reilly, D. & Stevenson, M. (2003). Mental health in Northern Ireland: Have 'the Troubles' made it worse? *Journal of Epidemiology and Community Health*, 57, 488-492.

- Place, U. (1988). Skinner's distinction between rule-governed and contingency-shaped behaviour. *Philosophical Psychology*, 1, 225-234
- Schwerdtfeger, K. L., Larzelere, R. E., Werner, D., Peters, C., & Oliver, M. (2013). Intergenerational Transmission of Trauma: The Mediating Role of Parenting Styles on Toddlers' DSM-Related Symptoms. *Journal of Aggression, Maltreatment & Trauma*, 22(2), 211-229.
- Shevlin, M., & McGuigan, K. (2003). The long-term psychological impact of Bloody Sunday on families of the victims as measured by The Revised Impact of Event Scale. *The British Journal of Clinical Psychology*, 42, 427-432.
- Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. New York. Appelton- Century-Crofts.
- Srouf, R. W. (2005). "Children Living Under a Multi-traumatic Environment: The Palestinian Case." *The Israel Journal of Psychiatry and Related Sciences*, 42, 88-95.
- Stone, L. L., Otten, R., Engels, R. C., Vermulst, A. A., & Janssens, J. M. (2010). Psychometric properties of the parent and teacher versions of the Strengths and Difficulties Questionnaire for 4-to 12-year-olds: a review. *Clinical child and family psychology review*, 13, 254-274.
- Usta, J. & Farver, J.A.M. (2005). Is there violence in the neighbourhood? Ask the children. *Journal of Public Health*, 27, 3-11.
- Wiltshier, F. (2011). Researching With NVivo 8. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 12(1): Art. 23.
- Yehuda, R., Daskalakis, N. P., Lehrner, A., Desarnaud, F., Bader, H. N., Makotkine, I., Flori, J., Bierer, L. & Meaney, M. J. (2014). Influences of maternal and paternal PTSD on epigenetic regulation of the glucocorticoid receptor gene in Holocaust survivor offspring. *Am J Psychiatry*, 171, 872-880.

Yehuda, R., Engel, S.M., Brand, S.R., Seckl, J., Marcus, S.M., & Berkowitz, G.S. (2005).

Transgenerational effects of posttraumatic stress disorder in babies of mothers exposed to the World Trade Center attacks during pregnancy. *J Clin Endocrinol Metab*, 90, 4115–4118.