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# 'Getting the kids back to school': education and the emotional geographies of the 2007 Hull floods

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## Key words

circle time; education; flooding; school; trauma.

## Abstract

Major flood events almost inevitably affect education and are likely to have a lasting impact on a school and community. In this paper, based on interviews with head teachers carried out in Hull during December 2008, we focus on the 2007 flood event in Hull and the way this affected schools and pupils in the city. The paper indicates the importance of reintegrating children (and families) into community structures such as schools as soon as possible after the flood and of creating safe spaces ('circle time') within the school classroom for pupils to explore their flood experiences. While we have commented on the potential therapeutic value of circle time in a post-disaster situation, we acknowledge that more research is required.

## Introduction

The United Kingdom has experienced a number of flood events over recent times, but the floods of June and July 2007 were particularly devastating, especially in the Midlands (Gloucestershire, Worcestershire) and Yorkshire (Humber-side, East Riding). According to the Meteorological Office (n.d.) over three times the average June rainfall fell over much of the West Midlands, Lincolnshire, Yorkshire and the Humber, and over four times the June average in some places. Some areas received a month's worth of precipitation in just 24 hours. In these and other areas the media reported flooding of houses, businesses and public buildings including schools. The overall cost to insurers for this event is expected to be between £1.5 and £3 billion – the largest single claims event in UK history (Crichton, 2008; Pitt, 2008).

## Health and social impacts of flooding: education

Disasters should not be separated from everyday life; they are a multidimensional product of the social, economic and political environment, culturally, spatially and emotionally specific (Bhargava, 2007; Convery *et al.*, 2008). It therefore follows that the people who can best describe the meaning and consequences of disasters are those who experience them directly (Erikson, 1994; Convery *et al.*, 2008), and that is what we try to do in this paper. We focus on the 2007 flood event in Hull and the way this affected schools

and pupils in the city. We discuss how schools managed the flood event through actions such as reopening as quickly as possible to 'restore normality' and using 'safe spaces' such as circle-time to allow the children to explore their flood experiences.

The special characteristics of flooding in the 21st Century, with its complex interaction of toxins (e.g. sewage and other household and industrial wastes); social, political and economic disruption, and technological failure (e.g. electricity supply and computer systems) has been termed a 'new species of trouble' (Erikson, 1994). In earlier work (Carroll *et al.*, 2006; Convery and Bailey, 2008) we have discussed the potential health and social consequences of flooding, outlining how impacts range from immediate death, injury and harm from contaminated water, through to detrimental longer term health and social impacts caused by damaged homes, loss of possessions, financial worries, forced move into temporary accommodation and fear of vacant home being burgled (see Tapsell and Tunstall, 2000, 2001, 2008; Tapsell *et al.*, 2003; DEFRA/EA, 2004, 2005; Reacher *et al.*, 2004; National Society for Clean Air and Environmental Protection, 2007; Burningham *et al.*, 2008).

Taylor (2008) worked in Hull post floods and links a decline in living conditions and stress to poorer physical health (i.e. skin conditions, chest infections, colds and even heart problems). Taylor identifies a range of factors, which appear to have negatively affected the emotional wellbeing of individuals and families. These include poorer work/school attendance; over-working (to avoid conditions at

home); a greater use of drugs and alcohol use; increased use of takeaway foods; increased family conflict and an increase in spending (resulting in debt). Moreover, as Duffin (2007: p. 9) notes, dealing with a flood is different from dealing with other major incidents. For example the emergency planning manager for Humber Primary Care Trust (PCT) states that flooding did not represent the 'big bang incident' that the PCT had prepared for, 'with flooding the problems carry on for quite a while'. Major flood events almost inevitably affect education, and as Jimerson *et al.* (2005) indicate, such crisis events are likely to have a lasting impact on a school and community. Despite his lamentable management of the Hurricane Katrina disaster, the former US President Bush sums this up well by stating that 'families can't move back (to their homes) unless there are schools for the kids' (Johnson, 2008b). Schools are a fundamental community structure.

According to the Department for Children Schools and Families (DCSF), in England a total of 857 schools with around 360 000 pupils were affected by 2007 summer floods, with 21 schools not reopening on time in September and 27 schools requiring temporary accommodation in September 2007 (DCSF News Centre, 2007; Morrison, 2008). Given this level of disruption, the relative paucity of research concerning the impacts of flooding on pupils, schools and education is surprising. Carroll *et al.* (2006) and Convery and Bailey (2008), writing in connection with the 2005 Carlisle floods, commented upon the impact on children in some families, their stress, physical illnesses, their difficulties of transport to school, and the effect of disruption to their social lives on relocation. Carroll *et al.* (2009) report that some children received counselling at school, but do not comment on the impact on children's schooling or education. Weems *et al.* (2009) discuss the negative effect of Hurricane Katrina and the resulting floods on academic performance of ninth grade (14- and 15-year-old) students in New Orleans. The Pitt Review (2008) confines itself to brief comments on the economic cost of the floods to councils as indicated earlier. The main source of information on the impact on schools is information on schools' or councils' websites, national and local newspapers; searching academic databases revealed very little literature. Therefore, it was decided to set up a study in Hull where it was reported that most of the schools were affected by the 2007 floods.

As discussed earlier, the Humber region experienced extremely high rainfall during June 2007. In Hull, this was the wettest month on record with 256.3 mm of rainfall. Hull has a high risk of flooding due to low elevation (90% of the city is below high tide level and some areas are below sea level) and drainage (due to low elevation the city has limited natural methods of drainage, so Hull's drainage system is entirely pumped) (Coulthard *et al.*, 2007a; Hull City Council, 2007).

An independent review of the 2007 Hull flood event (Coulthard *et al.*, 2007b) identified that 8600 households (one in five homes in Hull) and 20 000 people were affected, 2681 households were displaced, 1400 people living in caravans (trailers) and 6300 in alternative accommodation. In January 2008 there were still 1383 properties incomplete (Johnson, 2008a). There was also one death directly caused by the flood. In addition, Hull is the ninth most deprived area in England, with above national average levels of long-term limiting illness, working age disability and mental illness (Coulthard *et al.*, 2007b).

Hull has 31 000 children and young people under the age of 18, and in January 2008, information from schools revealed that 1497 pupils (981 in primary schools, 503 in secondary schools and 13 in special schools) were displaced in caravans or to upstairs rooms (Johnson, 2008a). Hilbourne (2007a) states that for one badly affected Hull school, attendance dropped by 15–20% (timescale not specified) mainly because of pupils being displaced to other parts of the city [This is of course significant, though to give context, following Hurricane Katrina some 53 000 pupils were displaced from New Orleans and approximately 200 000 of Louisiana's state school pupils were displaced (Johnson, 2008b)]. Coulthard *et al.* (2007b) report that out of Hull's 99 schools, 43 were severely damaged and only eight were not affected, with 114 000 pupil school days lost as a result of the 2007 flood event. Flood related damage to the schools was estimated to be around £100 million. One of the worst affected schools was Sydney Smith Secondary School, which alone experienced £5 million of damage, losing hundreds of textbooks, computers and a 'lot of GCSE coursework'. For Year 10 pupils, an entire year's coursework was destroyed (Hilbourne, 2007b; Morrison, 2008).

Although there is little literature on the impact of flooding on schools, there is considerable literature relating to the experiences of children following a disaster (see e.g. Blom, 1986; McFarlane, 1987; Saylor, 1993; Vogel and Vernberg, 1993; Lonigan *et al.*, 1994; Shelby and Tredinnick, 1995; Gibbs, 1996; Lubit *et al.*, 2003) and on the way that flooding has affected children (Earls *et al.*, 1988; Swenson *et al.*, 1996; Saigh *et al.*, 1998; Childs *et al.*, 2004). Within this body of research, the focus has been on children's individual experiences, not the social context as is explored in this paper. However, a brief review of this work reveals some significant findings.

Childs *et al.* (2004), in a study of the impact of Hurricane Floyd on school-aged children in North Carolina [based on an application of the child post-traumatic stress disorder (PTSD) reaction index instrument], state that 81% of the children displayed mild to very severe symptoms of PTSD. This level of trauma is understandable (and indeed common) in the short term following exposure to a traumatic event. Indeed, traumatic stress is often represented as the

'normal' reactions of those people exposed to an abnormal disaster event (Alexander and Wells, 1991; Yehuda *et al.*, 1998). However, in an earlier longitudinal study of children's responses to a hurricane (albeit using different methods) Swenson *et al.* (1996: p. 128) identified that incidences of trauma, though initially high, reduced over time. Thus while one third of the children studied continued to exhibit emotional and behavioural problems 3 months after a hurricane, 6 months on only 16% of the children continued to show such problems. Seven to 9 months after the hurricane they were evident in only a small number of children (9%).

In the adult trauma literature, Bonanno (2004: p. 20) argues that resilience in the face of traumatic events is not rare but relatively common, and represents healthy adjustment rather than pathology. Significantly, he differentiates between resilience (the ability to maintain a stable equilibrium) and recovery (where normal functioning gives way to threshold or subthreshold psychopathology, usually for a period of at least several months, and then gradually returns to preevent levels), arguing that resilience represents a distinct trajectory and is more common than has been understood. McFarlane (1988, 2000) observes that there does not necessarily appear to be a simple relationship between distress and psychiatric illness; distress need not be translated into psychiatric morbidity (Alexander and Wells, 1991). A meta-analysis of five separate disaster events carried out by Cardeña *et al.* (1994) identified that the incidence of people displaying post-disaster PTSD-like symptoms were very similar across studies and were apparent in only a minority of respondents.

Moreover, Jones (1995: p. 509) argues the concept of PTSD fails to 'embrace the complexity of the experiences of suffering and loss in [disaster] situations'. We would broadly support this perspective (and the work of others such as Bracken *et al.*, 1995; Jones, 1995; Summerfield, 2001) and argue for a more nuanced, situated *understanding* of trauma, which may share characteristics of clinically defined trauma, but crucially does not attempt to systematise and pathologise traumatic experiences (with related dangers of disempowerment and victimhood). As Summerfield (2001: p. 95) indicates, distress or suffering is not psychopathology. Convery *et al.* (2007, 2008) and Mort *et al.* (2005) have developed a definition of trauma which focuses on the situated *trauma experience* and the normal reactions to traumatic events.

There is a good deal of literature concerning the effects of trauma on mental health and emotional well-being and how best to manage it (see e.g. Duckworth, 1991; Carlier *et al.*, 1998; Everly *et al.*, 1999; Alexander and Klein, 2001; Bisson *et al.*, 2003; Jonsson and Segesten, 2004). A key issue would appear to be the significance of colleague or peer support. Dryden and Aveline (1988), for example, identify that a

strong group spirit fosters feelings of loyalty and a sense of belonging. Such support can have a positive, healing function, particularly when individuals have experienced traumatic events. Moreover, there is evidence that more formalised psychological debriefing [By formal debriefing we refer to Critical Incident Stress Debriefing as part of a Critical Incident Stress Management programme, based largely on the debriefing model created by Jeffrey Mitchell (Carlier *et al.*, 1998; Everly *et al.*, 1999).] may pathologise normal reactions to abnormal events and thus may undermine natural resilience processes (Raphael *et al.*, 1995; Carlier *et al.*, 1998; Mayou *et al.*, 2000; Bonanno, 2004; Schouten *et al.*, 2004). Other studies, however, have indicated that brief cognitive – behavioural early interventions may be beneficial for some individuals presenting with acute symptoms (Everly *et al.*, 1999; Hammond and Brooks, 2001; Liao *et al.*, 2002; Bisson *et al.*, 2003).

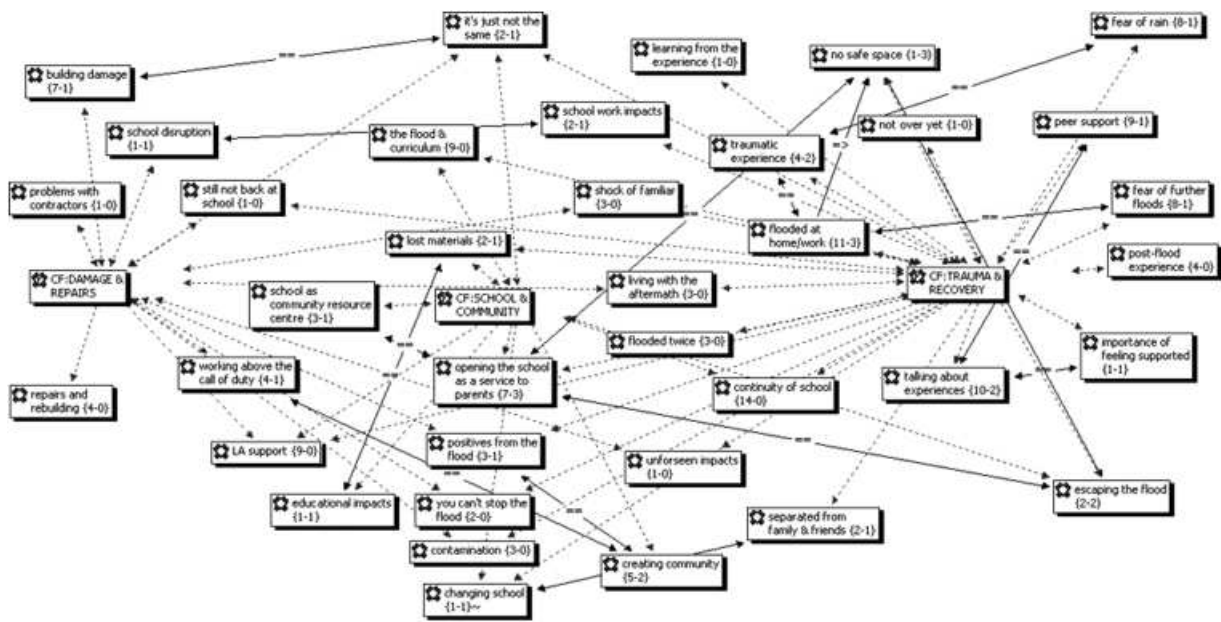
## Research approach

This paper is based on semistructured interviews conducted with head teachers (the most senior teacher within a school in the United Kingdom) as phase 2 of a broader investigation in the educational impacts of the flood event. In phase 1, head teachers were surveyed postally by self-completion questionnaire in 91 schools (71 primary, 14 secondary and six special schools) listed on the Hull CC website. This questionnaire consisted of 20 open ended questions on the key topics of school closures, whether they were flooded, help to other schools, damage to the school, impact on the head teacher, teachers and pupils, temporary facilities, costs, use of floods in the curriculum, lessons learnt. Replies were received from 58 primary schools, nine secondary schools and five special schools, a total of 72. Of these, there were 43 flooded schools (36 primary, five secondary and two special schools) whilst the remaining 29 schools were not flooded.

A range of flood-affected schools was selected for phase 2 of the research (Table 1 indicates interview codes and school grading). Hull City Council used a graded system for levels of flood damage of 'gold' (severely damaged and not expected to open by September 2007), 'silver' (required significant structural repair but likely to open in September) and 'bronze' (damaged and lost resources but able to operate). Across the city, there were 11 schools in the Gold category, 16 Silver schools, 27 Bronze schools and 49 with

**Table 1** Interview codes and school damage grading

FSE01	Primary school	Limited damage
FSE02	Primary school	Gold
FSE03	Primary school	Silver
FSE04	Primary school	Silver
FSE05	Secondary school	Gold
FSE06	Primary school	Limited damage



**Figure 1** Research themes (dotted lines indicate links between codes and code families, solid lines indicate relationships between codes).

limited internal damage. Head teachers were contacted about interviews, and six head teachers agreed to be interviewed during December 2008. The interviews followed on from the earlier questionnaire work discussed above and explored many of the issues raised by questionnaire responses.

The interviews (which lasted between 45 min and an hour) were digitally recorded and transcribed and data were analysed using the grounded theory – constant comparison method, where each item is compared with the rest of the data to establish and refine analytical categories (Pope *et al.*, 2000). Figure 1 shows the code network developed using the Atlas Ti software package and indicates linkages between codes and three main thematic areas ('code families'): *damage and repairs*; *school and community*; and *trauma and recovery*.

## Findings

### Trauma and recovery

I have been Head here for 13 years and this school is my baby to lose everything . . . is just unbelievable (FSE04).

In trying to describe the first few days of the floods, respondents used terms such as 'surreal', 'crazy' and 'an absolute nightmare'. For example, FSE04 states that 'it seems unreal now. Even looking back you tend to forget how bad it actually was' (Figure 2 indicates the level of flooding at one of the study schools).



**Figure 2** School under water (from Primary School notice board).

FSE06 recalls that at first, the 'atmosphere was if anything slightly light-hearted, you know, there were people in canoes and someone was windsurfing along by the railway bridge. But then it all started to change once that man died, someone had got their foot stuck in a drain and the water was rising and he couldn't be rescued. We were following this real time, how things changed, we started to realise how serious this was. The [then] head teacher was driving home and the water was rising so much that he couldn't steer the car, he had to abandon it. My wife's also a teacher and I called her to say that this could be serious'.

Familiar landscapes and journeys changed dramatically within hours. FSE01 describes driving through Hull on his way to work on the day after the flooding started 'it was

quite a strange experience . . . having driven through the parts of Hull that I need to drive through, I was absolutely shocked by the scene of devastation . . . I go past Kingswood where they've built a big new shopping centre, [there were] hoses everywhere and you could see houses standing in quite considerable depths of water. It certainly became apparent to me that it was a lot worse than I had thought'.

FSE04 notes that it is almost impossible to understand the impact of flooding without experiencing it, stating that 'seeing flooding on TV . . . you do feel sorry for people but you just don't understand how bad it actually is'. Morrison (2008) quotes a Head Teacher from a badly affected Hull school who states that 'I hadn't realised how much damage water can do . . . I didn't appreciate that we would have to cut out the walls because of the bacteria in the water'.

A number of head teachers described what they would do differently in the first hours of a future flood. FSE04 said she 'wouldn't spend any time trying to barricade, because it won't keep the water out . . . you cannot stop the water'. FSE05 recalls that important school information had been kept in a locked safe on the ground floor, which then flooded. Among other things, contact information for some students was lost. The school has now 'set up a system of how we can contact people . . . we have a better system of contacting the parents now'. Each parent has agreed an emergency plan for their children, so if we have to close the school there are some people that, as long as we ring them, they are happy for them to walk home.

In the days following the flood, FSE04 describes a collective 'state of shock . . . [people] couldn't quite take in some of the things that they were seeing and hearing in the city, and more closely at home. We became more aware of particular families who had been very very badly affected. Then, over the following months, you began to get to know those particular parents who were badly affected and they wanted to share with you some of their frustrations in terms of all the various hurdles they had to jump over to secure insurance claims and . . . other things . . . to eventually get back to their home'.

Many teachers experienced floods both at home and at work. Convery *et al.* (2008) state that the lack of a safe space post-disaster can cause high levels of stress and anxiety. FSE02 notes that 'to lose your home and your workplace was almost like a bereavement' but adds that the situation was the same for many children flooded at home and at school. She herself was also flooded at home, and recalls 'a very difficult 8 months . . . I was flooded as well and so from a personal perspective, psychologically it has not gone away'. FSE01 also states that 'I think staff whose homes were flooded have found it a very very stressful experience'. FSE03 states that in her school, the staff were fantastic despite some of them having been flooded themselves and FSE05 recalls that 'staff were putting up with coming in

from homes where they were flooded out and having to nip back to deal with builders, and coming in to find they were in temporary accommodation that might be changed 2 weeks further down the line'. In one school, a teacher flooded both at home and at work was still on sick leave some 18 months later (FSE06).

FSE05 states that one of the most difficult things for pupils was being separated from their friends. Jimerson *et al.* (2005) highlight the US National Organization for Victim Assistance team model, which involves the restoration of three of Maslow's basic needs; safety and security, cognitive functioning and love and belongingness. Lengthy separation from friends, and in some cases family members, is likely to have been extremely stressful for some pupils. It is difficult to generalise about the level of trauma and stress experienced by pupils, for as Pfohl *et al.* (2002) indicate, this is dependent on a number of developmental factors including age, developmental level, mental health problems, previous experiences of trauma and familial support. Moreover, contextual variables such as gender, culture, socioeconomic status, level of exposure to traumatic event, degree of perceived and actual threat, severity of loss and parents' responses to the traumatic event are also important factors (Jimerson *et al.*, 2005).

FSE05 notes that 'If they lived on a street that had been flooded they all went to different places, so some people would be in caravans in their street, some would be off with grandparents and the worst case [in my school] was one family where father and son were with one Grandma and mother and daughter were with another Grandma. The [boy] found it quite upsetting being away from his family, but he appreciated that neither Grandma had got a big enough house to take in all four'. Other pupils would be relocated over to the East of Hull or somewhere where they didn't know anybody. 'So groups of friends [were] broken up and I think that affected quite a lot [of pupils]'.

FSE06 also cites the impact of 'sharing bedrooms with siblings or go to live with grandparents'. However, FSE06 also notes that 'for some families with kids who were normally disruptive anyway, well I feel that the floods were sort of used as an excuse for ongoing bad behaviour, you know, they were disruptive before but now it's all linked to the floods'. FSE02 states that 'all of the children that would have reacted emotionally have continued to do so, but it hasn't really affected the other children. The children whose personality was calm anyway have stayed like that, but it has made worse those who were susceptible. I can feel that in myself, because it was traumatic experience for everybody'.

### What helped?

The approach most often linked with addressing self-esteem and the emotional and behavioural needs of children in

primary schools is circle-time (Miller and Moran, 2007). Though there are a number of different approaches to circle-time, in general its aim is to create an emotionally safe space for pupils to explore what they think and feel, and is bounded by strict ground rules for teachers and children, based on respect and safety from exposure or ridicule (Tew, 1998). This allows issues to be discussed and resolved in an environment where individuals are respected and valued, and is useful in helping children to develop enhanced self-esteem and improved interpersonal relationships (Lang, 1998; Tew, 1998; Kelly, 1999; Mosley and Tew, 1999; Canney and Byrne, 2006; Miller and Moran, 2007). As Lown (2002), indicates, circle-time has been given Department for Education and Employment 'approval' as an effective means of addressing the emotional and behavioural needs of children and young people.

In a case study of circle-time, Curry (1997) quotes from a child: 'I like circle-time because it allows us to share feelings, thoughts and beliefs, things we're worried about, things we feel proud of, things that are deep down inside you'. Curry adds that the children had found ownership in the circle and the forum it provided for their issues and concerns. She argues that regular, sensitive use of circle-time will aid and support children's emotional development and motivation as their awareness of themselves and others increases. Though often seen as a primary school approach, Tew (1998) argues that circle time can also benefit secondary school pupils.

Though there has been little evaluative research into circle time in the United Kingdom (Lang (1998), a recent controlled evaluation by Miller and Moran (2007: p. 611) identified that 'circle-time methodology, focusing on the creation of a climate in which individuals are respected and valued, is more likely to help children to develop a sense of self-worth'.

While all schools incorporated flooding into the curriculum in some form, it is perhaps unsurprising that most head teachers (FSE02; FSE03; FSE05; FSE06) mentioned 'circle-time' as an important technique for discussing flood-related trauma and anxiety. For example, FSE06 stated that 'we talked about the floods quite a lot in our circle-time, we put a lot of time into creating a good environment for the children, giving them an opportunity to discuss anything bothering them. We tried to get some of the children who were flooded to talk to the other kids about their experiences, so they could understand the situation, and they'd talk about losing stuff, toys or "my play station had to be chucked out" and the others would say wow or something. That sort of thing. Some of the teaching staff who were flooded also talked to the kids about their experience, which also helped. So we just talked about things, the children also wrote about the floods and created pictures' (Figure 3). In this way pupils' experiences of the floods were also



**Figure 3** Using the flood in the curriculum (with wry comment from teacher).

incorporated into the curriculum in various subjects and particularly, PSHE, Art, English, Geography and Science.

FSE02 notes that while counselling was on offer from 'our Educational Psychology Service [for families and parents as well as pupils] as far as I am aware no one took it up. I think the counselling came from each other. I think we all helped each other, really, because we were all in the same boat, literally'.

FSE03 also describes the importance of starting and ending lessons with circles, and highlights how circle time provided the opportunity to share experiences with others (in this case an MP). 'A lot of it was to do with talking about children's experiences and that was our therapy really, because the thing about the flood which is possibly largely forgotten is that the legacy is still here. We are working with kids who are still trying to catch up literally because of the time that they've missed. We used our circles to talk about it and it was brought into the curriculum that way mainly to do with the social and emotional side of how children feel and how they could talk about it. David Bell [MP and Permanent Secretary, Department for Children, Schools and Families] came into school and he was invited into one of the circles to talk about peoples experience and he was quite moved with the power the circle held. (Because of the circles) the children have been able to talk in a more articulate way about how they experienced the flood'.

Similarly, FSE03 states that 'we used our circles to talk about it [floods] and it was brought into the curriculum that way ... [connected] with the social and emotional side of how children feel and how they could talk about it'. FSE01 also focuses on the use of 'Personal, Social, Health & Citizenship Education lessons and "circle-time" to give the children an opportunity to talk about feelings and then introduce the topic'.

Two head teachers did not use circle time. One, FSE01, identified 'circle-time' as the area of the curriculum

'we would use to say well let's all have this particular focus for lessons for the next few weeks and give children the opportunity to share feelings and talk about it in their groups. That would probably be the area of the curriculum where I would focus my attention [in future]'. However, FSE04 states that the floods were not much discussed in school. The reasoning was that 'when we came back we just wanted to get on with normality and because a lot of these children were still living in other accommodation or living upstairs, we just wanted to get back to being normal. I don't think you need to dwell on it because it was just so horrific that getting back into school was for these children the most normal thing that could happen'.

Childs *et al.* (2004: p. 40) cite 'the value and importance in providing children with an opportunity to express their concerns and feelings about a traumatic event' and 'the need to educate parents, teachers and helping professionals on how to engage in a dialogue with children about a traumatic experience'. The above quotes illustrate the importance of this intervention in most of the study schools. There was also an acknowledgement, however, that lessons had been learnt in terms of responding to the emotional needs of pupils. FSE05 states that 'what we found out later on was that there were a lot of students who wanted to talk about things but maybe didn't and so it was making sure everybody was included. Even if someone says they don't want to talk about it then they might want to talk about it later on and it is picking up on those things ... we have been more sensitive about changed behaviours, taking into account the floods. It might be down to the fact that their families are split up and that will come out in different ways'.

### Continuing effects

Perhaps unsurprisingly, rain acts as an emotional and psychological trigger and memories of the flood return whenever it rains. FSE04 states that 'we all panic. We know the difference now between rain that will just go away and rain that starts to puddle over. When it puddles over that is when the staff here will start to panic because we have seen it twice. People said after the first flood that, although it was terrible, it would never happen again, but it did. It happened to us twice in 10 days. I don't believe that it will never happen again either. About a fortnight ago it rained really hard and one of the drains had blocked up and it started to puddle over again. If you look at the dip that the school is in, with heavy rainfall like that it will happen again'.

Similarly, FSE02 notes that 'every time it rains heavily, I am looking out of the window and worrying, is it going to happen again, and I know children do that. Children are afraid of the rain now. They have said that they get frightened when it rains, which is really sad'. FSE01 also highlights that 'there are certainly children who will talk to

you when it is raining heavily about whether it is going to flood or not. There is a member of staff whose house was flooded and she had to, I think, live upstairs most of the time and certainly comments when we get heavy rain. There is a degree of fear in some people that this means that the house might be flooded again'.

FSE03 states that when it rains persistently 'I have had teachers running down the corridor in floods of tears saying that we are flooded again, and it isn't even with big down-pours. No-one looks at the weather anymore without half an eye on the clouds over Hull, and it really has become quite a prominent feature of what we do ... this could be a generation ... hypersensitive to the effect of the rain'.

FSE05 notes that 'if we get heavy rainfall the younger students tend to be more anxious' and FSE06 states that 'when it rains now everyone takes notice. You can sense that the children become anxious. One lad just freaked out in class a few weeks after the flood. It took a while to calm him down and we eventually found out that he was scared of the rain, worried that his house was going to be flooded again'.

## Damage and repairs

### Rebuilding the school

The process of rebuilding post flood can be a contradictory experience, bringing both renewal and sadness at the loss of often irreplaceable materials. For FSE04 the repaired school was 'not the same as it was. The heart has gone out of the school really because it was such a lovely school. We will put it all back but it's not the same ... it's lost its character'. FSE02 notes that 'all the personal work was lost and teachers lost equipment and resources they had gathered over many years of teaching, 20 or 30 years, and that of course was never replaced. It can't be as it is personal to them' (Figure 4 indicates loss of materials at one of the study schools)

In FSE04's school 'everything went into a skip so there was nothing left apart from resources that we had managed to lift up high on that day, there was an awful lot of damage. All of the furniture, carpets, flooring and walls throughout the school were damaged'. However, this also provided an opportunity to rethink storage 'what I have done in my classrooms is rebuilt the furniture so that everything is in plastic boxes so if it floods again you pull out a plastic box and put it on the unit. What we found last time was that anything below a certain height was a congealed mess ... that had to be cleaned up and thrown away. Hopefully this time you will be able to pull out the plastic boxes, put them on top of the unit and hopefully save more resources than we did last time around'.

This was of course a very stressful time. According to FSE02 'people were on short fuses. Children living in difficult circumstances were perhaps quicker to lose their





**Figure 4** Damage (from Primary School notice board).

tempers. Parents got very angry and irate about things that we had no control over, like when buses were late to collect the children or take the children back. There would be an explosion with a parent, over the top angry, but it was because of the stress they were all living under. It wasn't actually that event, it was just the last straw. Certainly in the first few months there were difficulties. There were also difficulties because the whole of the area was so badly hit it was "who do you go to for help?", "who's going to organise it all?", "where's the money going to come from?". We had more questions than answers in the first few months, but then as the work began and things settled down, then people calmed as well.

The pressures to work hard to get the school open again also took its toll on staff. FSE05 notes that the teaching staff 'had to do virtually everything for the first week . . . the staff were coming in and doing all sorts of things that they weren't allowed to under their terms and conditions but they wanted to get the school back on'. Similarly, FSE03 recalls that once 'the kids were safe, we were under pressure to get the school back open. We had members of staff pulling carpets up with their bare hands to get it ready'. For FSE05 the school had been so badly damaged that there was a threat of permanent closure. For him 'it was important to

get it back open [school] and show that we were open for business".

At the start of the following academic year, many of the staff hadn't had a proper summer break. FSE03 recalls that 'when we came back in September many of my staff who had been flooded didn't have any training days. The children started on the Wednesday and the staff started on the Monday. They walked into the hall on the Monday morning having not been here for six weeks because I had kept everyone off site, and there were boxes stacked to the ceiling and they had to get their classes ready. We were under an obligation to get the school open for that Wednesday and we had children walking into the school on Wednesday morning while people were fitting carpets. In terms of the staff it had been a traumatic end of summer. They then had a six week holiday but still were not psychologically ready to start school'.

There were also difficult logistical issues around repairing the school with pupils on site. FSE05 notes that 'we wanted people to work at the weekends because that was the longest uninterrupted time . . . they weren't allowed to go across the school site at certain times if there were students around . . . they couldn't take tools or materials across . . . If they were working in Unit 4 they had to get everything they needed into Unit 4 before the kids started'.

Though most of the heads were happy with the contractors working on their schools (FSE03 notes that 'the contractors did a very good job' and FSE03 that 'the contractors were very good') FSE03 also recalls 'that there were a couple of contractors who we felt let down with because they went against the spirit of what we had achieved. It was an enormous achievement for the school and the area and the Authority to get us open. We felt immensely proud, and it just left a sour taste, so that was unhelpful'.

## School and community

### Getting the kids back to school

As mentioned earlier, the UNICEF community-based approach to crisis support recognises that communities have the capacity to help themselves through natural support networks and coping strategies, including the reintegration of children and families into community structures such as schools and nurseries (UNICEF, 1999). Anderson and Brooks (2005) also highlight the importance of the Inter-Agency Network for Education in Emergencies (INEE) report 'Minimum Standards for Education in Emergencies, Chronic Crises and Early Reconstruction' which highlights the importance of (and right to) education for all during emergencies. The INEE (2004: p. 6) state that in disasters, chronic crises and early reconstruction, education provides 'physical, psychosocial and cognitive protection which can

be both life-saving and life-sustaining . . . by offering safe spaces for learning, as well as the ability to identify and provide support for affected individuals. Education mitigates the psychosocial impact of conflict and disasters by giving a sense of normalcy, stability, structure and hope for the future during a time of crisis'. Similarly, Lazarus *et al.* (2002) state that schools can help play an important role post-disaster by providing a stable and familiar environment. Harada (2000) describes the 7-month use of a junior high school for accommodation after the 1995 Kobe earthquake, with school classes resuming 13 days after the earthquake happened.

FSE04 states that 'when we came back we just wanted to get on with normality and because a lot of these children were still living in other accommodation or living upstairs . . . getting back into school was for these children the most normal thing that could happen'. Similarly, FSE05 notes that 'there were a lot of families struggling as well so if the school wasn't running that was an extra burden for them. The Year 9 students we didn't manage to get back into school, but we managed to get them on some extra activities. Hull run sporting activities during the summer for kids. They ran their summer programme for them so they were doing sports and different activities. Not what you would call very educational, but it was more a case of taking them away from their parents because at the same time virtually every household had been affected in some way by flooding. We still have staff now who are not yet back in their houses and we still have children who are still living in caravans (trailers) or rented accommodation'.

FSE04 states that 'parents were very very grateful that we managed to open on time on 4th September'. Similarly, FSE01 states 'that the school maintained a sense of normality and stability for children whose lives were in considerable turmoil away from school. I think a lot really valued that this was almost like a haven for them of normality, and I think they found that quite reassuring'. Similarly, FSE02 notes that 'the parents were very grateful to us for keeping things going for their children. I think we were held in high regard, well, even more'.

For FSE03, states that 'educationally I shouldn't have taken them [pupils] back and educationally I shouldn't have allowed children to walk through the doors in the following September. It was safe, no-one was going to hurt themselves, there was no-one at risk, but we did it partly to alleviate the pressure because we realised parents were not getting to work and it was causing a lot of upset. It wasn't directed at us but I could feel the frustration. I felt as if, when we brought the children back, that we were providing a service for the parents because they were housebound. They were unable to leave the house so they were stuck in themselves and were missing work. It was coming up to the six week holiday as well. We were very aware about the impact that would have.

I think they [parents] realised that we really did stick our necks out to get the children back in, in order to support the community as well . . . it was one of those feelings that your backs were against the wall and you needed to provide the service. He adds, however, that this was really just 'two weeks of glorified baby-sitting'.

## Discussion

Major flood events are likely to have a lasting impact on a school and community and the 2007 Hull Floods were no exception. In this study, head teachers have discussed what they would do differently 'next time', particularly in the critical first few hours of a flood event. They talked, for example, about new systems for managing important school information (FSE05). Jimerson *et al.* (2005) suggest that schools should assemble a crisis response box, which should contain all the information and materials necessary to effectively manage a major crisis event. This should include things like aerial photos of the school, local and school maps, blue prints of school buildings, teacher and pupil contact information, pupil photos, list of students with special needs, keys, alarm turn-off procedures, gas and utility line lay outs, first aid supplies, emergency resource lists, evacuation site locations, etc. Crucially, this should be stored above flood level.

Lengthy separation from friends, and in some cases family members, is likely to have been extremely stressful for some pupils. There is evidence that post-event, reintegration in community structures is important for recovery (UNICEF, 1999; INEE, 2004; Anderson and Brooks, 2005). In an event such as the Hull floods a level of family displacement is inevitable; however, efforts should be made to enable school children to attend their own school where possible. Moreover, the approach taken by the schools in this case study 'of getting the children back to school as quickly as possible' was very probably an important factor in managing pupil trauma after the floods. Reopening the schools also provided a valuable service to parents struggling to cope with the aftermath of the floods. This helped to raise morale in the community, as well as improving school-community relationships and aiding community recovery.

Jimerson *et al.* (2005) highlight the UNICEF approach to crisis support. This advocates a shift from a trauma approach based on clinical diagnoses such as PTSD which effectively relegates individuals to victim status (see also Convery *et al.*, 2007, 2008) to a community-based approach, which frames the event within the everyday life and priorities of the community and recognises that communities have the capacity to help themselves through natural support networks and coping strategies that existed before the crisis event (UNICEF, 1999; Anderson and Brooks, 2005). This includes the reintegration of children and

families into community structures and it is clear that schools can and do play a significant role in this process.

While distress is universal following a disaster, most people are not psychologically ill (North and Hong, 2000). Convery *et al.* (2007) argue that during disasters people tend to seek support from trusted colleagues, who are able to 'share like experiences', rather than more formalised support from mental health professionals or counsellors. They stress the importance of 'therapeutic spaces' post-crisis for community support. Alexander (2005: p. 13) has highlighted revived interest in 'psychological first aid', which includes principles such as 'protection from further threat and distress', 'helping reunion with loved ones', 'sharing the experience' and links with 'sources of support'. The schools involved in this study have used experiential spaces created by circle-time as a form of 'psychological first aid' to help pupils voice and explore their feelings and anxieties concerning the floods. The concerted effort made by the schools to get the children back to school as soon as possible was also probably important (one head teacher regarded it as fundamental) As FSE04 notes 'I think the big thing was getting the school back open so they could come into school. I think they resolved a lot of it [trauma] amongst themselves'.

A report by a team of psychologists employed to support children and families following the flooding in June 2007 in Hull (Taylor, 2008: p. 13) raises concerns regarding the emotional impact of the floods on children and suggests that the trauma of children may have been overlooked by parents and teachers themselves struggling to cope with life post floods. Taylor states that 'planned attendance of these [formal counselling] events was very poor, even though most were advertised in flyers or in news letters'. However, Taylor notes that when the team attended regular school events (e.g. a parents' evening) 'use of our time was highest'. This emphasises the value of working with existing non-clinical events within schools, and this paper and the literature it draws on has shown, albeit with a very small sample size, the therapeutic value of existing experiential 'spaces' such as discussion, group work and circle time. In particular, circle time, a period of class activity in which pupils and teacher sit together in a circle formation to share ideas and feelings about one or more social, emotional, curricular issues (Lown, 2002) offers pupils a safe 'therapeutic space' (Convery *et al.*, 2007) to discuss issues and problems. In the study schools, pupils' experiences of the floods were also incorporated into the curriculum in various subjects and particularly, PSHE, Art, English, Geography and Science.

Post-disaster, it is critically important to allow pupils to tell their story and in the process discover that they are not unusual in their reactions and feelings (Jimerson *et al.*, 2005). In most cases, approaches such as circle-time should

help both pupils (and teachers) to deal with the trauma of the flood event on a voluntary basis. In some cases, however, sharing experiences may not be enough and pupils may require further support. In such situations psychological support and counselling should be made available to children and their families.

It is common to find that post-disaster, people have a heightened sense of awareness and sensitivity to certain emotion and psychological triggers that cause them to remember the event. Rainfall was mentioned by all heads in this study as a trigger: 'if we get heavy rainfall the younger students tend to be more anxious' (FSE05); 'when it rains now everyone takes notice. You can sense that the children become anxious' (FSE06). Bonanno (2004) states that such threshold or subthreshold psychopathology is likely to persist for several months before gradually returning to pre-event levels. Moreover, processing painful and distressing images and some degree of reliving the event may be an important part of the recovery process if that experience can be shared or acknowledged in some way (Convery *et al.*, 2008).

This study has explored the impacts of a major flood event on schools and communities in Hull. Though the sample size was small, the findings are consistent with a larger ( $n=71$ ) questionnaire-based study carried out by the authors at the same time. While we have commented on the therapeutic value of circle time in a post-disaster situation, we acknowledge that more research is required. This research was based on the perspectives of head teachers, in future work we would like to also include administrators, school counsellors, and most importantly school children. As Childs *et al.* (2004) note with reference to the impacts of Hurricane Floyd in the United States, it is not certain that the findings reported by adults would replicate the accounts of children. There is a paucity of research that examines a child's experience of disaster.

The use of existing forums for children to voice and explore their feelings is consistent with the importance placed on a return to normality and the role of the school in community-based support. They have distinct advantages over services offered by statutory agencies, which require people to venture into further new territory (e.g. clinical settings) when their lives are already disrupted. This small study identifies several facets of the role played by schools in maintaining resilience and promoting recovery. More in-depth study is required to enrich this picture yet further.

## References

- Alexander D.A. Early mental health intervention after disasters. *Adv Psychiatr Treat* 2005, **11**, 12–18.
- Alexander D.A. & Klein S. Ambulance personnel and critical incidents: impact of accidental and emergency work on mental

- health and emotional well-being. *Br J Psychiatry* 2001, **178**, 76–81.
- Alexander D.A. & Wells A. Reactions of police officers to body-handling after a major disaster, a before and after comparison. *Br J Psychiatry* 1991, **159**, 547–555.
- Anderson A. & Brooks D. Implementing minimum standards for education in emergencies: lessons from Aceh. *Humanitarian Exchange Magazine*, Issue 32, 2005. Available at <http://www.odihpn.org/report.asp?ID=2764> (accessed 20 October 2009).
- Bhargava M. Changing river courses in North India: calamities, bounties, strategies sixteenth to early nineteenth centuries. *Medieval Hist J* 2007, **10**, 183–208.
- Bisson J.I., Roberts N. & Macho G. The Cardiff traumatic stress initiative: an evidence-based approach to early psychological intervention following traumatic events. *Psychiatr Bull* 2003, **27**, 145–147.
- Blom G.E. A school disaster—intervention and research aspects. *J Am Acad Child Adolesc Psychiatry* 1986, **25**, 336–345.
- Bonanno G.A. Loss, trauma and human resilience. *Am Psychol* 2004, **59**, 20–28.
- Bracken P., Giller J. & Summerfield D. Psychological responses to war and atrocity: the limitations of current concepts. *Soc Sci Med* 1995, **40**, 1073–1082.
- Burningham K., Fielding J. & Thrush D. It'll never happen to me: understanding public awareness of local flood risk. *J Disaster Stud, Policy Manag* 2008, **32**, 190–215.
- Canney C. & Byrne A. Evaluating circle time as a support to social skills development – reflections on a journey in school-based research. *Br J Spec Educ* 2006, **33**, 19–24.
- Cardena E., Holen A., McFarlane A., Solomon Z., Wilkinson C. & Spiegel D. A multisite study of acute stress reactions to a disaster. In: T.A. Widiger, A.J. Frances, H.A. Pincus, R. Ross, M.B. First, W. Davis & M. Kline, eds. *DSM-IV sourcebook*. Washington, DC: American Psychiatric Association, 1994, 377–391.
- Carlier I.V.E., Lamberts R.D., Van Uchelen A.J. & Gersons B.P.R. Disaster-related post-traumatic stress in police officers: a field study of the impact of debriefing. *Stress Med* 1998, **14**, 143–148.
- Carroll B., Morbey H., Balogh R. & Araoz G. Living in fear: health and social impacts of the floods in Carlisle 2005. Research Report to Carlisle Agencies, SMC, Carlisle, 2006.
- Carroll B., Morbey H., Balogh R. & Araoz G. Flooded homes, broken bonds; the meaning of home, psychological processes and their impact on psychological health in a disaster. *Health Place* 2009, **15**, 540–547.
- Childs N.M., Harkness Hodgson J.L., Smith Lamson A.L., McCammon S.L., Dosser D.A. & Geddie L.F. The impact of Hurricane Floyd on Eastern North Carolina's school-aged children. *J Trauma Pract* 2004, **3**, 17–45.
- Coulthard T., Frostick L., Hardcastle H., Jones K., Rogers D. & Scott M. The June 2007 floods in Hull. Interim Report by the Independent Review Body, 2007a. Available at <http://www.coulthard.org.uk/hullfloods/> (accessed 2 June 2009).
- Coulthard T., Frostick L., Hardcastle H., Jones K., Rogers D. & Scott M. The June 2007 floods in Hull. Final Report by the Independent Review Body, 2007b. Available at <http://www.coulthard.org.uk/hullfloods/> (accessed 2 June 2009).
- Convery I. & Bailey C. After the flood: the health and social consequences of the 2005 Carlisle flood event. *J Flood Risk Manage* 2008, **1**, 100–109.
- Convery I., Mort M., Bailey C. & Baxter J. Role stress in front line workers during the 2001 foot and mouth disease epidemic: the value of therapeutic spaces. *Australas J Disaster Trauma Stud* 2007, 2007-2. Available at <http://www.massey.ac.nz/~trauma/issues/current.shtml> (accessed 2 October 2009).
- Convery I., Mort M., Bailey C. & Baxter J. *Animal disease & human trauma*. Basingstoke: Palgrave Macmillan, 2008.
- Crichton D. Role of insurance in reducing flood risk. *Geneva Papers Risk Insurance Issues Pract* 2008, **33**, 117–132.
- Curry M. Providing emotional support through circle-time: a case study. *Support Learn* 1997, **12**, 126–129.
- DCSF News Centre. Additional funding to help schools, 2007. Available at <http://www.dfes.gov.uk> (accessed 5 September 2008).
- DEFRA/EA. The appraisal of human related intangible impacts of flooding. R&D Technical Report 2005/TR, 2004. London DEFRA/EA.
- DEFRA/EA. Flood warning for vulnerable groups. Science Report Bristol. EA, 2005.
- Dryden W. & Aveline M. *Group therapy in Britain*. Milton Keynes: Open University Press, 1988.
- Duckworth D.H. Managing psychological trauma in the police service: from the Bradford Fire to the Hillsborough crush disaster. *J Social Occupational Med* 1991, **41**, 171–173.
- Duffin C. After the flood. *Emerg Nurse* 2007, **15**, 8–11.
- Earls F., Smith E., Reich W. & Jung K.G. Investigating psychopathological consequences of a disaster in children: a pilot study incorporating a structured diagnostic. *Interview J Am Acad Child Adolesc Psychiatry* 1988, **27**, 90–95.
- Erikson K.A. *New species of trouble*. New York: W.W. Norton & Company, 1994.
- Everly G.S., Boyle S.H. & Lating J.M. The effectiveness of psychological debriefing with vicarious trauma: a meta-analysis. *Stress Med* 1999, **15**, 229–233.
- Gibbs S. Postwar social reconstruction in mozambique: reframing children's experiences of trauma and healing. In: K. Kumar, Ed. *Rebuilding societies after civil war: critical roles for international assistance*. London: Lynne Rienner Publishers, 1996, 227–238.
- Hammond J. & Brooks J. The World Trade Center attack. Helping the helpers: the role of critical incident stress management. *Crit Care* 2001, **5**, 315–317.
- Harada T. Space, materials, and the 'social': in the aftermath of a disaster. *Environ Plann D: Soc Space* 2000, **18**, 205–212.
- Hilbourne N. Weekend work at flood school. *Times Educational Supplement*. 3 August 2007a.
- Hilbourne N. Destroyed by the floods, *Times Educational Supplement*. 13 July 2007b.

- Hull City Council. Strategic flood risk assessment, 2007. Available at <http://www.hullcc.gov.uk/pls/portal/docs/PAGE/HOME/Planning/PPLANNING520POLICY/FLOOD%20RISK%20ASSESSMENT/SFRANOVEMBER%202007.PDF> (accessed 18 June 2009).
- INEE. Minimum standards for education in emergencies, chronic crises and early reconstruction. DS Print, London, 2004. Available at [http://www.ineesite.org/minimum\\_standards/MSEE\\_report.pdf](http://www.ineesite.org/minimum_standards/MSEE_report.pdf) (accessed 10 October 2009).
- Jimerson S.R., Brock S.E. & Pletcher S.W. An integrated model of school crisis preparedness and intervention: a shared foundation to facilitate international crisis intervention. *Sch Psychol Int* 2005, **26**, 275–296.
- Johnson K.A. Hope for an uncertain future: recovery and rebuilding efforts in New Orleans's Schools. *Urban Educ* 2008b, **43**, 421–444.
- Johnson L. Impact of flooding 2007 on schools in Hull. Report to Hull CC, 2008a.
- Jones L. Response to stress is not necessarily pathological. *BMJ* 1995, **311**, 509–510.
- Jonsson A. & Segesten K. Guilt, shame and need for a container: a study of post-traumatic stress among ambulance personnel. *Accid Emerg Nurs* 2004, **12**, 215–223.
- Kelly B. Circle Time a systems approach to emotional and behavioural difficulties. *Educ Psychol Pract* 1999, **15**, 41–44.
- Lang P. Getting round to clarity: what do we mean by circle time? *Pastoral Care* 1998, **16**, 3–10.
- Lazarus P.J., Jimerson S.R. & Brock S.E. Natural disasters. In: S.E. Brock, P.J. Lazarus & S.R. Jimerson, eds. *Best practices in school crisis prevention and intervention*. NASP, 2002, 435–450.
- Liao S.-C., Lee M.-B., Lee Y.-J., Weng T., Shih F.-Y. & Matthew H.M. Association of psychological distress with psychological factors in rescue workers within two months after a major earthquake. *J Formosan Med Assoc* 2002, **101**, 169–176.
- Lonigan C.J., Shannon M.P., Taylor C.M., Finch A. & Sallee F.R. Children exposed to disaster: II. Risk factors for the development of post-traumatic symptomatology. *J Am Acad Child Adolesc Psychiatry* 1994, **33**, 94–105.
- Lown J. Circle time: the perceptions of teachers and pupils. *Educ Psychol* 2002, **18**, 94–102.
- Lubit R., Rovine D., Defrancisci L. & Eth S. Impact of trauma on children. *J Psychiatr Pract* 2003, **9**, 128–138.
- Mayou R.A., Ehlers A. & Hobbs M. Psychological debriefing for road traffic accident victims. *Br J Psychiatry* 2000, **176**, 589–593.
- McFarlane A.C. Posttraumatic phenomena in a longitudinal study of children following a natural disaster. *J Am Acad Child Adolesc Psychiatry* 1987, **36**, 764–769.
- McFarlane A.C. Relationship between psychiatric impairment and a natural disaster: the role of distress. *Psychol Med* 1988, **18**, 129–139.
- McFarlane A.C. Posttraumatic stress disorder: a model of the longitudinal course and the role of risk factors. *J Clin Psychiatry* 2000, **61**, (Suppl 5), 15–20.
- Meteorological Office. (n.d.) June 2007 record rainfall. Available at <http://www.metoffice.gov.uk/climate/uk/interesting/june2007/index.html> (accessed 18 June 2009).
- Miller D. & Moran T. Theory & practice in self-esteem enhancement: circle time and efficacy-based approaches – a controlled evaluation. *Teachers Teach* 2007, **13**, 601–605.
- Morrison N. After the floods – under the weather. *Times Educational Supplement*. 25 January 2008, No: 4772.
- Mort M., Convery I., Bailey C. & Baxter J. Psychosocial effects of the 2001 UK foot and mouth disease epidemic in a rural population: qualitative diary based study. *BMJ* 2005, **331**, 1234–1237.
- Mosley J. & Tew M. *Quality circle time in the secondary school – a handbook of good practice*. London: David Fulton Publishers, 1999.
- National Society for Clean Air & Environmental Protection. Flood impacts, 2007. Available at [http://www.nasca.org.uk/pages/environmental\\_information/flood\\_impacts.cfm](http://www.nasca.org.uk/pages/environmental_information/flood_impacts.cfm), 2007 (accessed 5 July 2007).
- North C. & Hong B.A. Project CREST: a new model for mental health intervention after a community disaster. *Am J Public Health* 2000, **90**, 1057–1058.
- Pfohl W., Jimerson S.R. & Lazarus. P.J. Developmental aspects of trauma and grief. In: S.E. Brock, P.J. Lazarus & S.R. Jimerson, eds. *Best practices in school crisis prevention and intervention*. Bethesda, MD: National Association of School Psychologists, 2002, 311–334.
- Pitt M. Learning lessons from the 2007 floods. The Pitt Review Final Report. London, Cabinet Office, 2008.
- Pope C., Ziebland S. & Mays N. Analysing qualitative data. *BMJ* 2000, **320**, 114–116.
- Raphael B., Meldrum L. & McFarlane A.C. Does debriefing after psychological trauma work? *BMJ* 1995, **310**, 1479–1480.
- Reacher M., McKenzie K., Lane C., Nichols T., Kedge I., Iversen A., Hepple P., Walter T., Laxton C. & Simpson J. Health impacts of flooding in Lewes: a comparison of reported gastrointestinal and other illness and mental health in flooded and non-flooded households. *Commun Dis Public Health* 2004, **7**, 1–6.
- Saigh P.A., Yule W. & Inamdar S.C. Imaginal flooding of traumatized children and adolescents. *J Sch Psychol* 1998, **34**, 163–183.
- Saylor C.F. *Children and disasters. Issues in clinical child psychology*. New York: Plenum, 1993.
- Schouten R., Callahan M.V. & Bryant S. Community response to disaster: the role of the workplace. *Harvard Rev Psychiatry* 2004, **12**, 229–237.
- Shelby J.S. & Tredinnick M.G. Crisis intervention with survivors of natural disaster: lessons from Hurricane Andrew. *J Couns Dev* 1995, **73**, 491–506.
- Summerfield D. The invention of post-traumatic stress disorder and the social usefulness of a psychiatric category. *BMJ* 2001, **322**, 95–98.

- Swenson C.C., Saylor C.F., Powell M.P. & Stokes S.J Impact of a natural disaster on preschool children: adjustment 14 months after a hurricane. *Am J Orthopsychiatry* 1996, **66**, 122–130.
- Tapsell S. & Tunstall S. The health effects of floods: the Easter 1998 floods in England. In: D.J. Parker, ed. *Floods, Vol. 1*, London: Routledge, 2000, 172–187.
- Tapsell S. & Tunstall S. The health and social effects of the June 2000 flooding in the NE region. Report to the Environment Agency. FRHC, Middlesex University, 2001.
- Tapsell S. & Tunstall S. 'I wish I'd never heard of Banbury': the relationship between 'place' and the health impacts of flooding. *Health Place* 2008, **14**, 133–154.
- Tapsell S., Tunstall S. & Wilson T. Banbury and Kidlington four years after the flood: an examination of the long term effects of flooding. Bristol, EA, 2003.
- Taylor W. Emotional and psychological report looking at the impact of flooding in Hull. Report for Hull CC, 2008.
- Tew M. Circle time: a much neglected resource in secondary schools? *Pastoral Care* 1998, **16**, 18–27.
- UNICEF Conference Report. Psychosocial effects of complex emergencies. March 18–19 in the Board of Governors Hall at the American Red Cross, Washington, DC, 1999. Available at <http://psp.drk.dk/graphics/2003referencecenter/Docman/Documents/3Postconflict/SymposiumReport.ARC99.pdf> (accessed 10 June 2009).
- Vogel J.M & Vernberg E.M Psychological responses of children to natural and human-made disasters, I: children's psychological response to disasters. *J Clin Child Psychol* 1993, **22**, 464–484.
- Weems C.F., Taylor L.K., Costa N.M., Marks A.B., Romano D.M., Verrett S.L. & Brown D.M. Effect of a school-based test anxiety intervention in ethnic minority youth exposed to Hurricane Katrina. *J Appl Dev Psychol* 2009, **30**, 218–226.
- Yehuda R., McFarlane A.C. & Shalev A.Y. Predicting the development of PTSD from the acute response to a traumatic event. *Biol Psychiatry* 1998, **44**, 1305–1313.