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DEALT A BLOW:

Exploring the relationship between traumatic brain injury and school exclusion

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In 2017/18, 7,905 children were permanently excluded from English schools, equivalent to 42 pupils excluded per school day.[1] This represents a 60% increase in the number of exclusions since 2013/14.[1] This practice has continued despite ever-growing evidence of an increased risk of subsequent poor educational attainment, and of being a perpetrator or victim of crime and violence.[2]

Children with registered special educational needs are excluded at five times the rate of those without such a diagnosis, and accounted for 45% of permanent exclusions in 2017/18, and 47% in 2016/17.[1] Given these figures only include those with formally identified needs, the actual proportion of those excluded who are affected by significant educational impairments can only be greater.

One cause of impairment that may be hidden from official statistics is traumatic brain injury (TBI). A TBI is any damage to the brain caused by a blow or jolt to the head, or a penetrating head injury. It is estimated that around 15% of adolescents have experienced a TBI.[3] The impact of such damage can vary greatly, but frequently leads to persistent impairments in multiple areas of cognitive and social functioning that can impact greatly on a child's behaviour, self-esteem, attendance, and achievement, and therefore the ability to engage in education (as illustrated in Table 1).[4] Such impact is not restricted to serious injury, with repeat mild injuries also identified as contributing to worse outcomes for young people.[5]

Despite this, TBI frequently remains either mis- or unidentified in the education system[6], with schools often not aware that an injury has occurred, or of its potential long term impact. This is a particular problem given that the impact of an earlier injury may not be realised until the damaged part of the brain develops in adolescence.

Whilst there is a strong body of evidence to suggest that TBI is highly prevalent among those in prisons[3], and that educational disengagement plays an influential role in this trajectory[7], to date there has been no research into the experiences of TBI among those excluded from school. The aim of this study was to understand the needs and difficulties of a group of young people who report a TBI, and who, having been permanently excluded from school, were subject to alternative educational provision, and, in doing so, to understand the potential for improved support. Further details of the setting and the methods are provided below.

• **Limb weakness and poor mobility**	• **Difficulties understanding and using language**
• **Fatigue**	• **Difficulties with organisation and planning**
• **Reduced concentration and attention**	• **Social difficulties, including a lack of empathy and awareness about their own or other people's emotional situation**
• **Irritability or impulsive behaviour**	
• **Impaired memory**	
• **Difficulties processing information**	

Table 1: Effects of brain injury that may impact on learning4

SELF-REPORTED TRAUMATIC BRAIN INJURIES

Among fifteen students assessed during this pilot project, eight reported having at least one injury to the head that caused them to become dazed, confused and/or unconscious. Of these eight, four reported a single previous injury, two reported two injuries, and two reported three or more injuries.

Students were asked questions regarding loss of consciousness to approximately indicate severity for the worst injury they had experienced. Following their worst injury, three reported loss of consciousness of less than five minutes, one of 5-10 minutes and one of over an hour. Three students indicated they did not lose consciousness but experienced some confusion and felt dazed, which is often present in post-traumatic amnesia.

HIGH LEVELS OF SIGNIFICANT NEED

Whilst none of these measures can be used to accurately determine severity of injury, they indicate value in exploring potential subsequent difficulties that might impact upon engagement in education. The profiles provided by the eight young people and their teachers all reveal significant challenges in at least one area of functioning, as signified by a red or orange colour coding in Table 3.

Four of the six for whom there is a full assessment are suggested to have significant challenges in five functional domains. The areas of functioning that are most frequently reported to pose challenges are 'attention and concentration' and 'organisation and time management'. These findings are in line with impairments previously identified among young people with TBI, and if students are not appropriately supported create further barriers to learning. Challenges with 'literacy and numeracy' are reported for four of the eight young people. Notably, teachers tended to identify more challenges here than are self-reported.

The young people's emotional and behavioural profiles as presented by the Strengths and Difficulties Questionnaire are polarised. For five of the eight young people, very significant levels of overall difficulties are reported, with a very significant impact on the young person, as indicated by a red colour coding. Additionally, significant or very significant levels of difficulties are reported in three or more categories for four of them, as indicated by a red or orange colour coding. There is some regularity in the areas of difficulty the teacher's reported. In particular, half of the students with head injury were rated by their teachers as having the most severe conduct problems, and three were identified as having very significant difficulties with portraying prosocial behaviour. Further difficulties were reported by some students regarding hyperactivity/inattention, problems maintaining peer relationships, and emotional symptoms.

In addition, teachers reported very significant difficulties in the mental health of all students for whom a full assessment was available. Similarly, student report of mental health also showed every student with head injury reported significant difficulties in at least one area (from feelings, wellbeing, mood, anger, to empathy). This suggests increased awareness of the mental health challenges of students with head injury is also required to assist engagement in education and quality of life.

A LACK OF RECOGNITION OR SUPPORT WITH EDUCATIONAL DIFFICULTIES

As shown in Table 4, despite apparent profiles of significant needs and difficulties, only one of the young people (Jaydon – see case study) reported ever having been told by someone at school that they had a learning difficulty, and this was the only one for whom there is a recorded Education, Health and Care (EHC) plan. It is not clear if this plan was made as a result of his TBI, his reported experience of meningitis, or for another reason. Such plans should be provided to all children and young people whose educational needs require more help than would normally be provided in a mainstream education setting, and are the basis for receiving additional educational support. The results of at least four other young people assessed suggest that they should also have been in receipt of an EHC plan, alongside specialised educational support.

The lack of an EHC plan is particularly concerning considering four students reported that a particular form of special educational need or difficulty had been identified. This suggests that either these needs were not communicated with the school, or that schools had not acted on the needs identified by providing formal support. This is despite multiple opportunities to intervene. All young people had been excluded from school, and all but one reported three or more exclusions. Seemingly no comprehensive assessment of functional needs had been provided at the point of exclusion, and certainly no longevity of support has been put in place.

JAYDON: A CASE STUDY

Jaydon is a White, 15-year-old boy, whose main language is English. He has looked after status – meaning he has been under the care of the local authority – but states that he lives with his mum and dad.

Jaydon reports having a head injury between the age of 6 and 10 years. This injury caused him to lose consciousness for less than five minutes, and resulted in a visit to hospital. Since his head injury, he reports: a 'mild' problem with 'headaches', 'feelings of dizziness', 'nausea/vomiting', 'forgetfulness and poor memory' and 'fogginess'; a 'moderate' problem with 'difficulties recalling everyday events'; and a 'severe' problem with 'poor concentration' and 'confusion'.

Jaydon reports 'significant challenges' with attention and concentration, and 'many challenges' with 'literacy and numeracy', 'social and communication skills' and 'coordination and organisation skills'. Jaydon's teachers report that he faces 'many challenges' with 'memory, vision and auditory skills', 'emotion and feelings', 'organising and time management skills' and 'literacy and numeracy'.

Jaydon has previously been told at school that he has a Learning Difficulty. He reports having Dyslexia and difficulties consistent with Developmental Language Disorder. Jaydon receives additional support at school in the form of one-on-one support. However, he regularly misses school, with around 50% attendance. He has previously been placed in isolation and has been excluded from school three or more times, starting at age 13 years. Whilst Jaydon reports that his most recent school exclusion was for persistent disruptive behaviour, it is officially recorded as being a result of a physical assault on an adult.

Table 2: self-reported head injuries

Child's pseudonym	Number of reported head injuries*	Age at most recent head injury (years)	Length of loss of consciousness (worst head injury)	Symptoms post-head injury/ injuries
Tom	3+	11-16	>1 hour	Yes
Kane	1	6-10	<5 minutes	Yes
Jaydon	1	6-10	<5 minutes	Yes
Ieuan	3+	6-10	Dazed/confused only	Yes
Daniel	2	6-10	Dazed/confused only	Yes
Jack	1	Unsure	5-10 minutes	Yes
Ellie	2	Unsure	<5 minutes	Yes
Lilly	1	Unsure	Dazed/confused only	Yes

* Only head injuries that caused the child to become dazed, confused and/or lose consciousness were recorded.

Table 3: Difficulties reported by children and their teachers.

		Tom	Kane	Jaydon	Ieuan	Daniel	Jack	Ellie	Lilly
CHILD REPORT	Literacy and numeracy	3	4	2	3	3	4	4	1
	Attention and concentration	3	4	1	2	2	2	2	2
	Social and communication	3	3	2	2	2	4	4	4
	Coordination and organisation	3	4	2	3	3	3	4	4
	General knowledge and skills	2	3	2	2	4	3	3	2
TEACHER REPORT	Memory, vision and auditory	2	2	2	3	3	4		
	Organisation and time management	1	2	2	2	3	3		
	Speaking, listening and understanding	2	2	3	2	3	3		
	Literacy and numeracy	2	2	2	3	3	3		
	Physical and coordination	3	2	3	3	3	4		
Strengths and Difficulties Questionnaire	Emotional	7	8	4	1	0	4	0	4
	Conduct	7	7	3	8	0	10	2	0
	Hyperactivity	7	6	7	10	0	8	3	1
	Peer problems	1	4	7	5	2	3	1	1
	Pro-social	6	10	5	7	2	10	1	2
	Total difficulties	22	25	21	24	7	25	6	6
	Impact	4	4	3	4	0	3	0	0

All scores relative to normal expectations. Red = very significant difficulties; Orange = significant difficulties.

Table 4: Special Educational Needs (SEN) and learning support

	CHILD SELF-REPORT			TEACHER REPORT	
Child's pseudonym	**Ever told by school had learning difficulty**	**Ever told by doctor or teacher had SEN**	**Receive additional learning support**	**Any SEN recorded**	**EHC Plan or Statement of SEN**
Tom	No	Yes	Yes	No	
Kane	No	Yes	No	Yes	No
Jaydon	Yes	Yes	Yes	Yes	Yes
Ieuan	Unsure	No	No	No	
Daniel	Unsure	Yes	Unsure	No	
Jack	No	No answer	No	No	
Ellie	No	No	No	No	
Lilly	No	No	No		

Recommendations

This exploratory study highlights the range of difficulties affecting eight young people who have experienced head injury and subsequent school exclusion. It presents a profile of significant challenge, inadequate formal recognition, and limited support of potential educational difficulties. Until coordinated data gathering fills the substantial gaps in the overall picture of the impact of brain injury, there can be no assertion of brain injury causing the young people's difficulties or their school exclusion. However, our knowledge of the potential adverse outcomes if needs are unmet leads to the following recommendations:

- Teachers should be aware of the potential signs of a brain injury, including changes in behaviour, the ability to engage in a classroom, or difficulties with learning. This should include compulsory training for all Special Education Needs Coordinators, and the availability resources produced by the Child Brain Injury Trust and other organisations to support all teachers to respond to identified needs.
- When aware that a brain injury has potentially occurred, the progress and needs of the young person should be regularly reviewed by schools, through the particular lens of potential TBI, including at any point at which behaviour changes or the student is perceived to be struggling.
- All young people with significant symptoms following a brain injury should be provided with an Education, Health and Care plan and the relevant support.
- The Department for Education should update its statutory guidance so as to ensure no child can be excluded from school without a full assessment for brain injury and its impact on functioning. Where such needs are identified, appropriate support should be provided to maintain the student in school.
- Alternative education providers – including those for children excluded from mainstream schools – should screen all young people for symptoms resulting from brain injury, and make appropriate referral to specialist services, and provide suitable education strategies to overcome specific learning difficulties.
- Information regarding young people who experience a brain injury must be shared between health and education services. This includes data sharing to better support young people, as well as to better understand population level trends in the influence of brain injury on trajectories towards school exclusion.

ABOUT THE STUDY

The study was undertaken in an English-language independent special day school in southeast Wales. Its roll consists of up to 150 children aged 11-16 years. The data was collected as a pilot for a broader study of learning profiles in this population, which will involve further schools. The study used the Do-IT Profiler: a person-centred, computer-based modular screening and assessment system, with accessibility features, including voiced question and answer options.

Modules included: Do-It Profiler screeners developed to test functional difficulties, knowledge and skills, feelings, and neurodiversity; the Strengths and Difficulties Questionnaire; a questionnaire completed by the young person, capturing baseline demographic information, formal diagnoses of impairment, history of brain injury, support received in school); a questionnaire completed by the teacher, capturing formal educational records. Once completed, practical guidance dependent on the child's specific responses was provided for the child, their parents and their school.

Parents provided written informed consent, both for their children to participate and for their children's anonymised data to be used for research purposes. Additionally, children provided assent to participate and for their anonymised data to be used for research purposes when accessing the Do-IT Profiler system.

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About the author

Louise Wilkinson is Head of Learning and Information at the Child Brain Injury Trust: a voluntary sector organisation providing emotional and practical support, information and learning opportunities for families and professionals affected by childhood acquired brain injury. In the last 11 years, Louise has personally delivered training and presented on brain injury to professionals across many sectors, including education, healthcare and youth justice. She is founder member of the Criminal Justice and Acquired Brain Injury Interest Group, and won the Stephen MacAleese Award for Inspiration by an Individual in the field of brain injury, for her work in this area.