

**Institution: University of Exeter**

**Unit of Assessment 4: Psychology, Psychiatry and Neuroscience**

**Case Study 2:**

Traumatic Brain Injury – A Silent Epidemic Fuelling Social Violence

**1. Summary of the impact** (indicative maximum 100 words)

In the UK prison system, new management and assessment procedures and training programmes have been developed as a direct response to a research programme, led by Huw Williams, into the high incidence of head injury in young offenders, and its association with repeat offending. To convert research findings into impact, the team was instrumental in setting up the Criminal Justice and Acquired Brain Injury Interest Group and has contributed data and recommendations to a number of networks, including Parliamentary Policy Groups. Research is continuing to influence policy and legislation (e.g. the Children and Family Bill) as a result of the Ministry for Justice and others becoming aware of brain injury as an important factor for repeat offending.

**2. Underpinning research** (indicative maximum 500 words)

It is well known that brain injuries, particularly those causing a loss of consciousness, can lead to long-term problems in attention, memory, planning and behaviour. Are such injuries a factor limiting the ability to change offenders' behaviour within custodial systems? The programme of research led by Associate Professor Huw Williams (appointed at Exeter in 2000) has shown (a) that traumatic brain injury (TBI) in male children is a common cause of admission to A&E services, and associated with social deprivation, (b) that such injury is associated with problems in emotional intelligence and social relationships, as well as cognitive problems, (c) that a very high proportion of both adult prisoners and young offenders report a history of TBI, with a greater "dosage" of injury associated with a higher probability of social violence and repeat offending.

- a. Examining admissions records over a six year period in an emergency department with a mixed urban and rural catchment population of 344,600, Williams et al<sup>\*1</sup> found between 120 and 180 cases per 100,000 for moderate to severe head injury in 3-9, 10-14 and 15-19 year old urban males, compared to 40 per 100,000 for all presentations; urban residence and low SES were risk factors for head injury in children under 5.
- b. In a case series of children under 16 with brain injury in the previous 1-7 years, Williams et al<sup>\*2</sup> found deficits in cognitive processing, reading of facial expression, or both: thus children with early TBI are at risk of poor social functioning, even years after their injuries. In a questionnaire study, Williams et al<sup>\*3</sup> found that children with a history of TBI experienced as great an increase in peer-relationship difficulties and emotional distress, relative to healthy controls, as did children accessing mental health services.
- c. Of 196 responding in a survey<sup>\*4</sup> of adult male prisoners in a UK Category C prison, over 60% reported a history of TBI (16% moderate to severe); those with a TBI history were younger at initial entry into custodial systems and had higher rates of repeat offending and longer periods of incarceration in the past 5 years. In a study<sup>\*5</sup> of 186 young male offenders aged 11-19, 46% reported TBI with loss of consciousness (LOC). Repeat injury was common: 32% reported more than one LOC. Frequency of reported TBI was associated with number of convictions, and 3 or more TBI episodes with greater violence in their offences. Those with self-reported TBI were also at greater risk of mental health problems and of misuse of cannabis. A recent study<sup>\*6</sup> of 61 incarcerated male juvenile offenders aged ~16 found that more than 70% reported at least one head injury, 41% with LOC; greater frequency or severity of TBI was associated with more symptoms of poor concentration and headaches, not accounted for by alcohol or drugs. These rates of TBI are much higher than the 5-24% range reported in studies of the general male population<sup>citations in \*5</sup>.

These findings suggest that: (1) injury prevention is a priority, especially in children and adolescents; (2) improved management of offenders with TBI is required – including new assessment procedures at admission – to allow for neuropsychological variables in behaviour management within the justice system in order to reduce the probability of future offending.

<sup>\*n</sup> References to the relevant research publications in Section 3

### 3. References to the research (indicative maximum of six references)

#### Articles in international peer-reviewed journals:

1. Yates, P.J., Williams, W.H., Harris, A., Round, A., & Jenkins R. (2006). An epidemiological study of head injuries in a UK population attending an emergency department. *Journal of Neurology Neurosurgery & Psychiatry*, **77**(5), 699-701.
2. Tonks, J., Williams, W.H., Frampton, I., Yates, P., Wall S.E. & Slater A. (2008). Reading emotions after childhood brain injury: Case series evidence of dissociation between cognitive abilities and emotional expression processing skills. *Brain Injury*, **22**(4), 325-332.
3. Tonks, J., Yates, P., Williams, W.H., Frampton, I., & Slater, A. (2010). Peer-relationship difficulties in children with brain injuries: Comparisons with children in mental health services and healthy controls. *Neuropsychological Rehabilitation*, **20**(6), 922-935.
4. Williams, W.H., Mewse, A.J., Tonks, J., Mills, S., Burgess, C.N.W., & Cordan, G. (2010). Traumatic brain injury in a prison population: Prevalence, and risk for re-offending. *Brain Injury*, **24**(10), 1184-1188.
5. Williams, W.H., Cordan, G., Mewse, A.J., Tonks, J., & Burgess, C.N.W. (2010). Self-reported traumatic brain injury in male young offenders: A risk factor for re-offending, poor mental health and violence? *Neuropsychological Rehabilitation*, **20**(6), 801-812.
6. Davies, R.C, Williams W.H, Hinder D, Burgess C.N, & Mounce L.T. (2012). Self-reported traumatic brain injury and post-concussion symptoms in incarcerated youth. *Journal of Head Trauma Rehabilitation*, **27**(3): E21-E27.

Exeter Psychology staff co-contributors include: Burgess: Lecturer 2002 – 2011 Senior Lecturer to present; Mewse; Senior Lecturer; Slater: Associate Professor, retired 2011; Tonks: Associate Research Fellow 2007, Lecturer 2010-11; Yates: Clinical Tutor 2008-present.

#### Grants :

**2013** Barrow Cadbury Trust: work with the Disabilities Trust; £30,000 total award (£7,000 to Williams for part time researcher) on new service "Rehabilitation of offenders with brain injury".

**2012:** Children's Commissioners (England), with K McAuliffe, £18,838 for research based review of needs of children with neuro-developmental and acquired conditions in the justice system.

**2011:** Barrow Cadbury Trust, £10,000 awarded to Williams for research-based review on Criminal Justice System and Brain Injury.

**2010** ESRC Seminar Series Award to Williams, with McAuliffe and Krajewska, £16,307 "Developmental Social Neuroscience, Ethics and the Law".

**2009** UK Brain Injury Forum, £10,000 award to Williams (original funding source : Big Lottery) "Development Project: Crime and Acquired Brain Injury".

**2007-2010** ESRC, £1,194,675 award to PI A. Haslam *The individual in the group: Social identity and the dynamics of change* (with T. Postmes, J. Jetten, C. Haslam, M. Ryan & H. Williams): of which ~10% was allocated to research on brain injury and identity change, partly in prisons.

### 4. Details of the impact (indicative maximum 750 words)

#### Information and advocacy to Parliamentary Groups and Organisations

Following a talk and written submission by Williams to the **All-Party Parliamentary Group (APPG) on Acquired Brain Injury**, chair Bob Russell MP tabled parliamentary questions\*<sup>1</sup> (18/1/10) about the knowledge of TBI in prison groups. Answers revealed that the Ministry of Justice did not keep data on or monitor TBI.

An **APPG for Prison Health report** (2011)\*<sup>2</sup> endorsed Williams' recommendations: policy should better reflect the prevalence of TBI in offenders; offending and reoffending could be reduced by acknowledging the role of TBI in criminal behaviour; early intervention and neuro-

## Impact case study (REF3b)

rehabilitation in childhood could contribute to reducing crime; mandatory screening should be provided for head injuries at first reception.

An **ESRC Seminar Series “Developmental Social Neuroscience, Ethics and the Law”** brought together leading neuroscience researchers and clinicians with lawyers and policy makers to explore policy implications. The final seminar *Neuroscience, Children & the Law* 19/6/12, hosted by the **Parliamentary Office for Science and Technology**, presented William’s research<sup>\*3\*9</sup>, informed parliamentarians on advances in neuroscience relevant to the criminal justice system, and led to further discussions in Parliament<sup>\*9</sup> on how to take account of the neurocognitive status of young offenders and their capacity to engage in judicial proceedings and rehabilitation.

**An overview report on implications for the justice system**<sup>\*4</sup> was commissioned from Williams by the Barrow Cadbury Trust and launched by the APPG on Penal Affairs in Parliament (4/12/12). The recommendations referring to neurodisabilities identified in vulnerable children were circulated to over 200 MPs and members of the House of Lords to inform debate regarding the **Children and Families Bill** (2013) and the **Anti-Social Behaviour Bill** (2013).

With respect to repeat offending, the brain injury research was **cited by Secretary of State for Justice, Chris Grayling MP in a speech to CIVITAS**: “Astonishingly, it’s far more likely than not that if you’re a young person in custody you will have experienced a traumatic brain injury. Somewhere between 65 and 70% [65.1-72.1%]. (June 2013)”<sup>\*5</sup>. The Secretary of State estimated that recidivism costs the taxpayer ~£10 billion p.a.

**Creation of a Partnership to take the work forward:** Williams helped to establish and originally co-chaired the **Criminal Justice and Acquired Brain Injury Interest Group (CJABIIG)**. Now chaired by an eminent cross-bench peer<sup>\*10</sup> who was HM Chief Inspector of Prisons 1995-2001, this is a consortium of charities created to develop the evidence base and policy links, and includes key brain injury charities (Headway UK, Child Brain Injury Trust, Encephalitis Society) and law sector charities (Barrow-Cadbury Trust, Howard League, Prison Reform Trust) charged with improving the welfare of offenders’ lives and social outcomes. Stakeholders include the **Youth Justice Board (YJB)**.

**Work resulting from this Partnership leading to reform in UK judicial/prison system:**

**Offender Sentencing:** The Barrow Cadbury Trust (BCT) asked Williams to talk in Parliament on brain and maturity (early 2011). This evidence contributed to new guidelines for judges issued 2011 by the Sentencing Council for England and Wales, as summarised in Williams’ BCT report<sup>\*4</sup>. Williams was also commissioned to write an article on brain injury and crime in a CPD newsletter for judges<sup>\*6</sup>.

**Young Offender Screening:** Since 2012, Williams has assisted the YJB with assessment procedures including a new screening system (“CHAT”), written to include TBI considerations, which has been piloted, is now in use in the secure estate (approximate annual intake 4000 young offenders), and will be rolled out into the community system in 2013/2014.

**Adult Offender Screening:** Williams has consulted on developing similar screening systems for adults in prison through advice and training (Jan 2013) provided to the National Offender Management System (NOMS Executive Agency of the Ministry of Justice responsible for prisoner health) and HM Inspector of Prisons. Williams was also consultant to a pilot project for screening in Leeds Prison conducted by the Disability Trust. These initiatives could in due course affect all offenders coming into the UK prison system – whose offender population in 2012 was 86,048, of whom a substantial proportion are likely to have some form of brain injury.

**Earlier Intervention:** YJB and Disabilities Trust have developed a collaboration for joint funding of link workers to screen and rehabilitate children with TBI in Leeds and Manchester prisons (funds awarded Feb 2013) with Williams as research consultant.

**The Office of the Children’s Commissioner** awarded Williams a grant (Jan 2012) to write a systematic review and policy document<sup>\*7</sup>, highlighting significant neurodisability in the offender population. He also contributed in the area of neurodisability to a **working group for the Royal**

**Colleges (Psychiatry, Paediatrics and Child Health, GPs), on guidelines for Commissioning Care For Children And Young People In Secure Settings (June 2013)\*<sup>8</sup>.**

As an example of **local impact in the Prison Service**, Essex Brain Injury Services has added a low secure neurobehavioural ward of 8 beds to their existing 14-bed locked rehab ward and 2 x 3 bed community houses, citing Williams' research.

Williams co-led the **British Psychological Society** response to the House of Commons Public Bill Committee Inquiry on the **Anti-Social Behaviour, Crime and Policing Bill** (July 2013).

**Broader dissemination**

**A Policy Review for the Professional Practice Board (PPB) of the British Psychological Society** was commissioned in 2012 from Williams, who continues as Chair of the PPB working group on Brain Injury and the Justice System.

**The policy work has been reinforced with widespread media coverage**, including BBC R4 'All in the Mind (Nov 2010), BBC World Service Newsday (Nov 2010) (the World Service has 1.39 million UK listeners, 44 million worldwide) BBC R4 Today (Oct 2012): (6.67 million listeners RAJAR), The Independent (2012) <http://www.independent.co.uk/voices/comment/the-silent-epidemic-of-head-injury-in-young-offenders-8216841.html>, The Guardian (Oct 2012) <http://www.guardian.co.uk/science/brain-flapping/2012/oct/19/brain-injury-justice-young-offenders>.

<sup>\*n</sup> Relevant source corroborating impact in Section 5

**5. Sources to corroborate the impact** (indicative maximum of 10 references)

1. Parliamentary questions tabled by Bob Russell MP <http://www.publications.parliament.uk/pa/cm200910/cmhansrd/cm100118/text/100118w0025.htm#10011842001000>
2. APPG for Prison Health report: *Traumatic Brain injury: A Major, Neglected & Modifiable Risk Factor for Crime* January 2011 (references Williams: 'for bringing to our attention the prevalence of TBI in offenders and for contributing the data that makes up the report')
3. Event hosted by Parliamentary Office for Science and Technology presenting William's research :<http://www.parliament.uk/mps-lords-and-offices/offices/bicameral/post/events/past-events/neuroscience-children-and-the-law/>
4. **Williams, H.** *Repairing Shattered Lives: Brain injury and its implications for criminal justice* (Dec 2012). Commissioned by BCT for the Transition to Adulthood (T2A) Alliance, a coalition of 12 leading organisations in the criminal justice, youth and health sectors. [www.t2a.org.uk](http://www.t2a.org.uk)
5. Secretary of State for Justice, Chris Grayling MP speech (June 2013) <https://www.gov.uk/government/speeches/crime-in-context-speech>
6. **Williams H.** *A silent epidemic that speaks volumes*. Article for judges in England & Wales on brain injury and crime, published by Studies for the Courts' Judiciary, Judicial College Nov, 2011.
7. Office of the Children's Commissioner report: Hughes N., **Williams, H.** et al. (2012). *Nobody made the connection: The prevalence of neurodisability in young people who offend*. <http://www.rcpch.ac.uk/news/basic-health-needs-children-custody-not-being-met-says-new-report>
8. The Royal College of Paediatrics and Child Health guidelines on Commissioning Care For Children And Young People In Secure Settings (June 2013) <http://www.rcpch.ac.uk/index.php?q=child-health/standards-care/service-configuration/secure-settings/children-and-young-people-secure-s>

**Individuals providing external corroboration**

9. Scientific Adviser, Parliamentary Office of Science and Technology (letter supplied).
10. Chair of Criminal Justice and Brain Injury Group.