

# Children, brain development and the criminal law

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The legal system needs to take greater account of new discoveries in neuroscience that show how a difficult childhood can affect the development of a young person's brain which can increase the risk adolescent crimes, according to researchers. The research will be presented as part of an Economic and Social Research Council seminar series in conjunction with the Parliamentary Office of Science and Technology.

Neuroscientists have recently shown that early [adversity](#) – such as a very chaotic and frightening home life – can result in a young child becoming hyper vigilant to potential threats in their environment. This appears to influence the development of [brain](#) connectivity and functions.

Such children may come to adolescence with brain systems that are set differently, and this may increase their likelihood of taking impulsive risks. For many young offenders such early adversity is a common experience, and it may increase both their vulnerability to mental health problems and also their risk of problem behaviours.

These insights, from a team led by Dr Eamon McCrory, University College London, are part of a wave of neuroscientific research questions that have potential implications for the legal system.

Other research by Dr Seena Fazel of Oxford University has shown that while social disadvantage is a major risk factor for offending, a Traumatic Brain Injury (TBI) - from an accident or assault –

significantly increases the risk of involvement in violent crime.

Professor Huw Williams, at University of Exeter, has similarly shown that around 45 per cent of young offenders have TBI histories, and more injuries are associated with greater violence.

Professor Williams said: "The latest message from [neuroscience](#) is that young people who suffer troubled childhoods may experience a kind of 'triple whammy'. A difficult social background may put them at greater risk of offending and influence their brain development early on in childhood in a way that increases risky behaviour. This can then increase their chances of experiencing an injury to their brains that would compromise their ability to stay in school or contribute to society still further."

Professor Williams wants to see better communication between [neuroscientists](#), clinicians and lawyers so that research findings like these lead to changes in the legal system. "There is a big gap between research conducted by neuroscientists and the realities of the day to day work of the justice system," he said. "Although criminal behaviour results from a complex interplay of a host of factors, neuroscientists and clinicians are identifying key risk factors that – if addressed – could reduce crime. Investment in earlier, focussed interventions may offset the costs of years of custody and social violence".

Dr Eileen Vizard, a prominent [adolescent](#) forensic psychiatrist, will talk at the event Neuroscience, Children and the Law, about how the criminal justice system needs to be changed to age appropriate sentencing for children as young as ten years old, whilst also providing for the welfare needs of these deprived children. Laura Hoyano – a leading expert on vulnerable people in criminal courts – will discuss the problems children face when testifying in criminal courts.

Provided by Economic & Social Research Council

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