

**Dr Stuart Derbyshire** is a reader in Psychology at the University of Birmingham and will be a keynote speaker at the Centre for Parenting Culture Studies event [Monitoring Parents: science, evidence, experts and the new parenting culture](#) taking place in 13 and 14 September at the University of Kent.

A version of this piece, entitled '**The pseudoscience of the parent-bashers**', was recently published by Spiked-Online.

<http://www.spiked-online.com/index.php/site/article/11051/>

Recently the independent thinktank, CentreForum, released a report on parenting with the title, *Parenting matters: early years and social mobility* (1). The report follows in the wake of numerous other publications including, *Early intervention: smart investment, massive savings* (2), *The foundation years: preventing poor children becoming poor adults* (3), *Early intervention: good parents, great kids, better citizens* (4) and a raft of booklets and papers from the Harvard University Center on the Developing Child including, *The science of early childhood development* (5).

Uniting these publications is the belief that neuroscience demonstrates the necessity of an enriched home environment in the first three (or, increasingly, five) years of life to ensure normal adult development. These publications are also united by the belief that an enriched home environment in the first three years of life will prevent antisocial behaviour and crime, reduce educational failure, improve physical and mental health and prevent poverty. Given the importance of providing an enriched early environment, radical proposals for nudging, pushing and bullying parents into conformity have been proposed such as tying 'active and positive' beneficial behaviours to child benefit payments (1).

The belief that neuroscience has demonstrated the necessity of an enriched home environment in the first three years of life (or any other period) is utterly baseless. Infants who spend their first three years of life in a severely impoverished environment, such as those infants placed into Romanian orphanages during the Ceauşescu period, do suffer a variety of learning and behavioural problems including language and memory problems and impulsivity (6). These problems have also been associated with altered brain development including reduced brain size and connectivity (6, 7). None of these findings are surprising. Romanian orphans typically spent less than an hour a day interacting with a conscious adult and had little to no access to any stimulation such as a book, a toy or a television. The infants were left alone, trapped in their cot, for upwards of 23 hours a day.

That is a far cry from the usual family household in Britain or anywhere else. The numerous reports advocating enriched parenting transition from the consequence of severe neglect to normal households via a number of deft, and dishonest, maneuvers. Very often the authors will elide severe neglect with normal problems and oversights. Bruce Perry, for example, writes about overt childhood abuse and infants raised in orphanages and then states, "recent inadvertent impacts of technology have spawned declines in extended families, family meals, and spontaneous peer interactions" (8). And just like that, Perry equates sitting alone in a cot for 23+ hours a day with missing a family meal. It is misleading to imply that because severe deprivation creates severe problems, more benign deprivation will create milder problems.

A related trick is to use the known effects of severe deprivation on the developing brain and relate that knowledge to normal development. The classic experiments of Hubel and Wiesel demonstrated that sensory deprivation can cause problems with perception. Specifically, Hubel and Wiesel demonstrated that visual deprivation can cause functional blindness associated with a shrinkage of certain cell formations in the visual areas of the brain. But what kind of deprivation are we talking about? Well,

"The most common method of deprivation was to suture together the lids of the right eye. Under local or general anesthesia the lid margins were trimmed and then sutured end to end... The lid-sutured eyes were thus completely deprived of form stimulation, and also, to a large extent, of stimulation by diffuse light" (9).

Hubel and Wiesel were, unsurprisingly, not working with human infants (they were working with cats) and I think we can probably agree that most parents do not sew their infants' eyelids together. All of which makes the following comment from *Parenting matters* rather misleading,

"...it is appropriate sensory input (e.g., through hearing and vision) and stable, responsive relationships that build the healthy brain architecture that provides a strong foundation for lifelong learning, behaviour and health" (1, emphasis in original).

An 'appropriate sensory input' is that provided naturally to undamaged and normally operating sensory organs (such as the eyes and ears). There is no reason to be concerned about providing 'appropriate sensory input'. Under normal conditions, the normal sensory parts of the sensory brain develop normally.

The reference to 'stable, responsive relationships' is also misleading. The report quotes another report from the Harvard University Center on the Developing Child, which states:

"In early childhood development, serve and return happens when young children naturally reach out for interaction through babbling, facial expressions, words, gestures, and cries, and adults respond by getting in sync and doing the same kind of vocalizing and gesturing back at them, and the process continues back and forth" (5).

*Parenting matters* goes on to state that without such responses from adults, or if adults provide unreliable and inappropriate responses, then the brain's architecture does not form as expected and that creates problems in learning and behaviour. The original Harvard report provides no reference to back up this claim and, as far as I am aware, there is no study demonstrating brain deficits or problems in learning and behaviour because of a lack of sync between infants and adults except in extreme cases.

Peter Hobson, professor of developmental psychology at the Tavistock Clinic in London, has, for example, described the difficulties posed by mothers with borderline personality disorder (BPD). People with BPD have serious problems with their interpersonal relationships and mothers with BPD are intrusive and insensitive towards their infants. Consequently, at one-year-old, the infants have a reduced propensity to engage with others (10). Whether that reduced propensity continues or leads to further problems later in childhood or adulthood remains unknown. Most mothers, of course, do not have BPD and studies suggest that typical infant-parent interactions are sufficient to support normal developments in memory, language and other cognitive abilities (11, 12).

Finally there is the dishonest suggestion that if parents do not get it right in the first 3-5 years then all is lost. *Early intervention*, for example, states baldly: "It is in that delicate and vulnerable period that our lives can be made or not" (2). In reality, even the children raised in Romanian orphanages show dramatic improvements in cognitive ability and behaviour after being adopted by Western families (6).

At the time of adoption, 70-90% of the adopted children have impaired cognitive ability and other serious developmental delays. Several years after adoption, however, and those figures drop to 14-36% and almost every adopted child shows some evidence of catch-up. The children that

continue to struggle are typically those children who were institutionalised the longest. None of this should be surprising, as already mentioned, being neglected 23+ hours a day is likely to cause negative effects and the longer that neglect goes on then the greater those negative effects are likely to be. Nevertheless, these findings do not justify the extreme negative view that neglect, even the severe neglect experienced by Romanian orphans, cannot be overcome. The infants adopted into Western homes improved, dramatically in many cases, and we have no idea how that improvement might be accelerated if the infants were subjected to intensive intervention, teaching, training and care.

The experiences with Romanian infants do not even justify the view that the first five years are critical years. An adult placed into isolation for 3-5 years is likely to emerge with cognitive difficulties and behavioural problems followed by a difficult and tedious recovery. Equally, an adult might make positive changes in their life by learning a new language, working abroad, volunteering or whatever and discover aptitudes and skills they never had before. Regardless of what happens in the first five years of life there are always opportunities and possibilities for further development.

Politicians, scientists and commentators who claim that neuroscience demonstrates early intervention will prevent antisocial behaviour, crime, educational failure and poverty and will improve physical and mental health are, therefore, being dishonest. Neuroscience demonstrates no such thing. At best, we know that children who are severely deprived struggle in the immediate years after their deprivation but they also demonstrate considerable 'catch-up'. We also know that animals completely deprived of sensory input develop severe sensory abnormalities but human infants, even those in orphanages, are never completely denied sensory input except by acts of nature (such as being born with cataracts). Children who grow up relatively deprived, with little access to books and poor schooling, are in no way comparable to the children from Romanian orphanages or to animals completely denied sensory input. Any deficiency they may suffer due to the inadequacies of their early years can be addressed later in their lives. Consequently, any descent into antisocial behaviour, crime, educational failure, poverty or negative physical or mental health cannot be explained away as the inevitable consequences of irreparable brain damage caused by early years deprivation. Politicians and other commentators who quote neuroscience to justify early years intervention expose neuroscience to ridicule and encourage negative labels such as 'neuromania' (14) and 'neurononsense' (15). Scientists who opportunistically promote early years intervention to justify publications and grants risk turning neuroscience into a joke.

The current obsession with parenting and early years intervention is not science based but is another example of the tendency to individualise social problems that may then be addressed through lifestyle interventions such as parenting classes. The science is being manipulated and invented to justify a policy that is already active. This is a direct abuse of science to hide the paucity of vision and imagination to tackle social problems and to provide an authority to deliver policy recommendations that would otherwise be seen as draconian and contemptuous of normal parental life.

*Parenting matters*, for example, suggests that Britain needs a campaign to encourage (nudge or push) parents into following these five commandments every day ('5-a-day for child development'):

- 1) Read to your child for 15 minutes
- 2) Play with your child on the floor for 10 minutes
- 3) Talk with your child for 20 minutes with the television off
- 4) Adopt positive attitudes towards your child and praise them frequently
- 5) Give your child a nutritious diet to aid development

The author of *Parenting matters* hopes that failure to comply with these commandments will be met with moral condemnation similar to that doled out to those who drink and drive or fail to wear a seatbelt. He does not suggest on the spot fines for failures but does imply that parents might be 'incentivised' (bribed) into attending a 'parenting initiative' with increased child benefit or loyalty points to shop for healthy food. Alternatively, parents might have their child benefit cut until they do something 'active and positive' for their child.

Far from being positive, the message of *Parenting matters* can only increase the sense of powerlessness, fatalism and isolation amongst parents as they are thrown further back onto their own resources. Trying to follow '5-a-day for child development' may also breed cynicism when the effort merely disrupts normal family life and undermines children's transition to adulthood. After all, if we really believe *Parenting matters'* message, then it is always our parents who are responsible for our poor choices in life. This message diminishes the autonomy an individual has over who they want to become, and reduces their behaviour to a series of choices made on their behalf before they were five years old.

The proposal of '5-a-day for child development' is draconian, unwarranted, unnecessary, intrusive, arbitrary and appalling in just about every respect possible. There is no science to justify those five commandments and Britain's social problems will not be solved through micro-managing parent-child interactions. Parents should not be guilt-tripped into believing that their interactions with their children will make or break them and it is wrong (morally and factually) to place the blame for every social problem onto parents.

Notes:

1. <http://www.centreforum.org/assets/pubs/parenting-matters.pdf>
2. <http://www.cabinetoffice.gov.uk/sites/default/files/resources/earlyintervention-smartinvestment.pdf>
3. <http://www.bristol.ac.uk/ifssoca/outputs/ffreport.pdf>
4. [http://www.incredibleyears.com/library/items/early-intervention-CSJ\\_09.pdf](http://www.incredibleyears.com/library/items/early-intervention-CSJ_09.pdf)
5. [http://developingchild.harvard.edu/resources/reports\\_and\\_working\\_papers/science\\_of\\_early\\_childhood\\_development/](http://developingchild.harvard.edu/resources/reports_and_working_papers/science_of_early_childhood_development/)
6. Behan ME, Helder E, Rothermel R, Solomon K, Chugani HT. Incidence of specific absolute neurocognitive impairment in globally intact children with histories of early severe deprivation. *Child Neuropsychology* 2008; 14: 453-469.
7. Eluvathingal TJ, Chugani HT, Behan ME, Juhasz C, Muzik O, Maqbool M, Chugani DC, Makki M. Abnormal brain connectivity in children after early severe socioemotional deprivation: A diffusion tensor imaging study. *Pediatrics* 2006; 11: 2093-2100.
8. Perry B. Childhood experience and the expression of genetic potential: What childhood neglect tells us about nature and nurture. *Brain and Mind* 2002; 3: 79-100.

9. Wiesel TN, Hubel DH. Effects of visual deprivation on morphology and physiology of cells in the cat's lateral geniculate body. *Journal of Neurophysiology* 1963; 26: 978–993.
10. Hobson RP, Patrick MPH, Crandell LE, Garcia Perez RM, Lee A. Maternal sensitivity and infant triadic communication. *Journal of Child Psychology and Psychiatry* 2004; 45: 470–480.
11. Diamond A, Goldman-Rakic PS. Comparison of human infants and rhesus monkeys on Piaget's A-not-B task: Evidence for dependence on dorsolateral prefrontal cortex. *Experimental Brain Research* 1989; 74: 24-40.
12. Kuhl PK. Is speech learning 'gated' by the social brain? *Developmental Science* 2007; 10: 110-120.
13. <http://epee.ioe.ac.uk/epee3-11/epee3-11%20pdfs/epeepapers/Final%203-11%20rb%20dfE-RB061%2027nov08.pdf>
14. Tallis R. *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity*. Acumen, 2011.
15. Cordelia F. *Delusions of Gender*. Icon Books, 2010.