

Lessons in empathy

By Simon Baron-Cohen

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David is five years old. Every morning his father drops him at the school gates and he runs excitedly to join his friends. One day his classmate Sarah falls over in the playground and cries out in pain. David looks up, his face showing concern. There are no grown-ups nearby so he rushes over to the girl who lies nursing her grazed knee, touches her lightly on the shoulder and asks her if she is okay. Sarah looks up gratefully and, without words, smiles to indicate that she is fine.

Thomas is also five years old. When he arrives at school, he clings to his mother, just as he did at playgroup. The protesting Thomas is peeled away by a teacher, who stays with him until his mother has gone. Fast forward to the playground: Thomas also sees Sarah fall but hardly reacts. He is busy in the sandpit, playing with the toy digger, a look of concentration on his face. Sarah's cry doesn't interrupt him – he carries on carefully pulling and pushing the levers, to dump the sand into the right place.

David and Thomas illustrate two points on what I call the "empathy bell curve". We are all situated somewhere on this spectrum in terms of how much empathy we have. My research colleagues and I have developed ways to

measure this, both in adults and children, from level 6 at the highest end, through to level 0 at the lowest.

Children like David develop empathy effortlessly, and the benefits are both immediate and enduring. They tend to be more popular, better at communication, have higher self-esteem and do better academically. Throughout their lives they find socialising and relationships easier. The benefits of empathy affect others as well. Those in their orbit feel understood, appreciated, valued and included.

Further down the spectrum, children like Thomas have trouble developing empathy, and difficulties ensue. They tend to find socialising stressful, get it all wrong and either withdraw from others or get into trouble. They are perceived as less popular and may be ostracised. If the difficulties persist, such children may develop low self-esteem, be turned off school, become targets of bullying, or turn into bullies themselves – a downward spiral that can lead to depression and academic under-achievement. Those on the receiving end can feel irrelevant while the person with low empathy can appear self-centred, even selfish or manipulative. Even worse, they may act aggressively in pursuit of their goals. Not everyone with low empathy ends up hurting others. Some are simply confused by other people and avoid social contact, becoming reclusive.

These tales remind us how important empathy is in childhood and beyond. Yet it receives little focus in the educational system. We should be taking empathy more seriously. A child who is low in empathy is at risk of growing up into an adult with a psychiatric condition such as borderline, narcissistic or anti-social personality disorder. Such individuals can tear families apart or cause harm to others. Low empathisers include those on the autistic spectrum although, thankfully, they tend not to hurt others (on the contrary, they typically develop a strong sense of morality and justice based on rules). Children with autism nevertheless experience overwhelmingly high levels of social anxiety because of their difficulty in reading body language and imagining what others are thinking. Understandably, many avoid relationships, finding them too stressful.

But before we consider whether empathy should or could be taught in schools, it is important to understand why some children develop empathy more easily than others. The answers, described in my new book [Zero Degrees of Empathy](#), come in part from neuroscience, which now allows us to observe the awake brain using magnetic resonance imaging. This can reveal where empathy resides.

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Several different regions of the brain (the inferior frontal gyrus, the ventromedial prefrontal gyrus and the amygdala, to name just three) are active during empathy and are strongly connected to one another. Our research, along with that of others, shows that in individuals whose empathy is low, the brain also shows low activity in key areas of this "empathy circuit".

Being able to measure empathy scientifically means we can also study its determinants – or why some people have more or less of this vital resource. The answer includes both early experience (parental love and affection) as well as our prenatal biology (hormones and genes).

Research into empathy has changed a lot in the 30 years I have been studying it. Back in 1981, I worked in a small unit for children with autism. It was called Family Tree, in Barnet, north London, and there were just six pupils and six teachers. Among my other roles there, I was the school bus driver. The children had extremely low empathy: they rarely looked up at other people's faces, or appeared to notice other people's feelings. They were locked into their own private bubble. If they wanted to undress in the middle of the classroom or a supermarket, they would do so without a trace of embarrassment or self-consciousness. They would talk about their favourite topic day after day after day, seemingly oblivious of whether the listener wanted to hear about it or not. One consequence of their autism was a lack of friends.

At the same time, my colleagues and I began to conduct psychological experiments with children like this, uncovering the specific difficulties they have in taking other people's thoughts and feelings into account. We discovered they were delayed in the ability to appreciate that different people could hold different beliefs about the

same event. This is the "cognitive" component of empathy. In the 1990s, we delved deeper, using brain scanning, and we discovered the importance of the orbito-frontal cortex and the amygdala in empathy. Then, in the first decade of this century, we expanded our scientific tool box to explore the biology of empathy, finding how levels of the hormone testosterone produced by the foetus relate to the child's later empathy, and discovering that genes are a contributing factor as well.

In parallel, other researchers have been brain scanning teenagers with "conduct disorders" and adults with antisocial personality disorder. These studies reveal that regions in their empathy circuits are underactive or atypical in volume, and that these differences correlate with how much empathy an individual shows. Others have been studying people with borderline personality disorder, who often rage against those they are closest to. They too show atypical functioning of the empathy circuit of the brain. Disturbingly, 80 per cent of those with borderline personality disorder also suffered abuse or neglect in their childhood, reminding us that while biology may predispose us to a certain level of empathy, our early environment is also a massively important risk factor and represents an opportunity for intervention.

So if low empathy in childhood is itself a risk factor for later difficulties, should we teach empathy in schools? I would argue we should, and that different approaches are needed for different kinds of children, whether they are like David or Thomas. Preschool children with autism, for example, might benefit from child-friendly animations such as *The Transporters*, which help them learn how to recognise emotional expressions. This DVD has real faces of actors grafted on to animated vehicles, since young children with autism typically avoid looking at faces but gravitate to predictable, mechanical stimuli. Other children might benefit from using roleplay or video feedback to prompt them into taking another person's perspective, or to realise how others see them.

Empathy can even be taught through learning how to compromise, or learning how to put your point of view across more diplomatically, thereby thinking about how your words are received by the listener. There is a wide variety of ways to teach this, and schools need to make as much space in the curriculum for emotional literacy as they do for other kinds of literacy. And because of the empathy spectrum, such teaching materials are likely to benefit not just the kids who are at the extreme of zero degrees, but also many throughout the broader population.

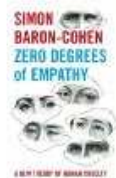
Simon Baron-Cohen is professor of developmental psychopathology at the University of Cambridge. 'Zero Degrees of Empathy: A New Theory of Human Cruelty' is published by Penguin

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