

## Sadistic cruelty and unempathic evil: Psychobiological and evolutionary considerations

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**Abstract:** Understanding the origins of evil behaviour is one of our most important intellectual tasks. A distinction can perhaps be drawn between overt sadistic cruelty and the lack of empathy to suffering that is a hallmark of evil. There is increasing data available on the prevalence, proximal psychobiological underpinnings, and distal evolutionary basis for these contrasting phenomena.

Understanding the origins of evil behaviour is one of our most important intellectual tasks, and Nell makes a useful contribution by emphasizing the ubiquity of cruelty, its reward value, and its emergence over the course of evolutionary history.

Although the term *evil* has origins in theological rather than scientific literature, it is useful insofar as it emphasizes that cruel behaviour forms only a subset of a larger class of violent behaviour that involves the infliction of physical or psychological pain on others. Cruelty is often associated with delight or with other forms of arousal in the pain of others (as Nell points out), whereas other kinds of violence may simply involve a failure to be sufficiently empathic to the suffering of others (e.g., the evil of bystanders).

If this distinction between overt sadism and a lack of empathy is valid, then immediate questions arise about the relative prevalence of these different kinds of phenomena, about their proximal psychobiological mechanisms, and about the distal evolutionary origins that underlie them. A large body of literature has tackled this area, but at this point in time there are perhaps more questions than answers. Nevertheless, a number of points can be made about the prevalence, psychobiology, and evolutionary underpinnings of overt sadistic cruelty and lack of empathy to suffering.

In an influential review, Baumeister emphasized that absolute cruelty – brutality inflicted on innocent victims for sadistic pleasure – is rare (Baumeister 1999). Instead, he argued that most violence can be understood in terms of emotions such as fear, lust, pride, and idealism. If he is correct, most perpetrators do not enjoy their acts, but nevertheless feel justified in doing them. Certainly, while it is crucial to recognize the overt sadism in the acts of cruelty described by Nell, it is equally important to recognize the banality of evil involved when individuals and societies ignore the suffering caused by their violent acts (Kaminer & Stein 2001).

The neuropsychiatric literature would seem to suggest a distinction in the proximal psychobiology of overt sadism and unempathic evil. Temperolimbic lesions may lead to sadistic behaviour, and more commonly, prefrontal lesions are associated with a lack in empathy and inhibitory dyscontrol (Stein 2000). fMRI studies have indicated that it is not only the occasional patient who takes pleasure in the suffering of others; reward centres are ordinarily activated during altruistic punishment (de Quervain et al. 2004). Similarly, inhibitory dyscontrol is also not uncommon; adolescence and substance use are associated with decreased prefrontal capacity (Chambers et al. 2003).

The evolutionary literature may shed further light on the distinction between overt sadism and unempathic evil. As Nell concludes, there is currently little evidence that cruelty is an adaptation underpinned by a hard-wired model of the brain. In contrast, there is strong evidence that empathy is an adaptation with a specific neurocircuitry and particular adaptive value (Preston & de Waal 2002; Stein 2005). Nevertheless, it is not necessarily adaptive to extend one's empathy to all; there are individual differences in empathic capacity, and in individuals'

willingness to extend empathy to unrelated individuals or to other species (Stein 1996).

Nell provides some useful suggestions about the measurement of individual differences in the capacity for cruelty. Here it is relevant to emphasize the possible impact of differences in early environmental adversity on subsequent proneness to sadistic or unempathic behaviour. Prevalence data have emphasized an association between early trauma and adult psychopathology (Paolucci et al. 2001). Psychobiological research has noted that early adversity may disrupt dopaminergic neurocircuitry and reward-related behaviours (Stein et al. 2005). And an evolutionary literature has suggested that in the context of high levels of environmental adversity, impulsivity may be adaptive (Gerard & Higley 2002).

Violence not only presents moral quandaries, but it is a major public health issue. Is it possible to translate gradual insights into the biological and evolutionary psychology of cruelty and evil into the prevention of violence? Arendt, Baumeister, Nell, and many others have emphasized the need to begin by acknowledging the ordinary and universal human capacity for cruelty and evil; these behaviours cannot merely be relegated to those who are "abnormal" or otherwise marginal. Other steps are also needed; individuals and societies need to increase their awareness of violence and to use their empathy and understanding to reduce cruelty and evil (Stein et al. 2002).

## Epigenetic effects of child abuse and neglect propagate human cruelty

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**Abstract:** The nature of children's early environment has profound long-term consequences. We are beginning to understand the underlying molecular programming of the stress-response system, which may mediate the destructive long-term effects of cruelty to children, explain the evolutionary stability of cruelty, and provide opportunities for its reversal of early trauma.

In the target article, Nell tries to demonstrate that cruelty is a historically and cross-culturally stable feature of human behavior. Although the elaborations of cruelty for punishment, amusement, and social control may have arguable evolutionary merits, the problem of explaining cruelty directed against children – child abuse – is profound and perplexing for humans. In fact, recent surveys suggest rates of child abuse to be alarmingly high and unequivocally damaging. For example, child sexual abuse prevalence is at least 20% for women and 5%–10% for men worldwide (Freyd et al. 2005). Further, in clinical (Brown & Anderson 1991), community (Bifulco et al. 1991), and epidemiological samples (Holmes & Robins 1988), experiences of early child maltreatment have been associated with the burden of higher rates of major depression, anxiety, and other psychiatric disorders. More recent studies have begun to examine mechanisms. In one study of 268 adults, retrospective questionnaire responses indicated a significant association of childhood trauma and impulsivity (Roy 2005). Further, Pine et al. (2005) found an association between maltreatment and attention avoidance of threatening faces in 34 children who had been abused. The significant psychiatric sequelae likely result from a plethora of evolutionarily adaptive mechanisms that normally mediate positive influences, which are co-opted by trauma to affect children's sensitive, developing, and adaptive nervous systems (Worthman & Kuzara 2005). Research so far focuses on epigenetic modulation of the stress-response system by the experience of violence and neglect