

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36**(1), 34-35.

## **Applying the revenge system to the criminal justice system and jury decision-making**

S. Craig Roberts<sup>a</sup> and Jennifer Murray<sup>b</sup>

<sup>a</sup>Psychology, School of Natural Sciences, University of Stirling, Stirling, FK9 4LA, Scotland, UK; <sup>b</sup>Nursing, Midwifery and Allied Health Professions Research Unit, Iris Murdoch Building, University of Stirling, Stirling, FK9 4LA, Scotland, UK.

**craig.roberts@stir.ac.uk**

**jennifer.murray@stir.ac.uk**

**<http://www.psychology.stir.ac.uk/staff/staff-profiles/academic-staff/craig-roberts>**

**<http://stir.academia.edu/JenniferMurray/About>**

**Abstract:** McCullough et al. propose an evolved cognitive revenge system which imposes retaliatory costs on aggressors. They distinguish between this and other forms of punishment (e.g., administered by judges) which are not underpinned by a specifically-designed evolutionary mechanism. Here we outline mechanisms and circumstances through which the revenge system might nonetheless infiltrate decision-making within the criminal justice system.

***Applying the revenge system to the criminal justice system and jury decision-making.***

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36(1)**, 34-35.

The proposed evolved cognitive revenge system serves two purposes: to discourage an aggressor from imposing future costs to their victim, and to encourage the aggressor not to withhold future benefits from the victim. The authors suggest that the revenge system is similar to the criminal justice system (CJS) in some respects, but is fundamentally distinct from institutionally-organised forms of punishment such as that administered by judges. However, we believe that, under certain circumstances, the revenge system may not be as distinct from the CJS as McCullough et al. suggest. In particular, it may be relevant to the applied context of jury decision-making, where a group of lay people are tasked with deciding whether or not a person is guilty of committing a crime (this can be wholly, partially, or not guilty). In light of growing recognition of the potential for applying evolutionary insights to specific issues in modern society (e.g., Roberts 2012), we here discuss the ways in which the proposed revenge system can be applied to the CJS.

The main distinction between the evolved revenge system and institutionally administered punishment lies in their respective foci. While the former is characterised by a mechanism designed to deter cost-impositions or benefit-withholdings in the future (McCullough et al.), underpinned by emotional motivation (e.g., Lapsley 1998), the latter is based on socially developed constructs of justice (Ho et al. 2002; Price 1997). The CJS therefore aims to allocate suitable and appropriate punishment in an emotionally detached fashion, according to pre-identified guidelines and societal norms (Lerner 2003).

A further distinction between the revenge system and jury decision-making lies in the level of personal involvement. Although the revenge system is discussed in the

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36(1)**, 34-35.

context of a victim-aggressor relationship, where the costs and benefits are highly personal and relevant to the individuals directly involved, CJS decision-making involves almost no true personal involvement, as no previous (or probable future) relationship normally exists between the aggressor and legal representatives or jurors.

There are, however, occasions where the revenge system may infiltrate the CJS. This is because punitive decisions in the CJS cannot always be wholly extricated from emotional influence (Ho et al. 2002; Murray et al., 2011). Individuals who hear intimate details about a case may involuntarily become emotionally involved, especially where there has been a high cost to the victim (e.g., extreme violence, sexual assault), leading to empathy for the victim (Tsoudis 2002). Jurors, in particular, may be influenced by the emotional re-telling of an incident, as they are relatively unlikely to have experiences of such cases in their day to day lives and have little to no formal training in legal processes. Through increased emotional involvement and empathy, an “emotionally involved” juror may come to view the costs of the crime in a personal manner, seeing the benefits of punishment in a similar way to the victim, leading to the desire for ‘vengeance’ and stronger punitive sentiment (Ho et al. 2002; Lapsley 1998; Murray et al., 2011). Thus, as a result of the evolutionary link between emotion and vengeance, the proposed revenge system may well be applicable to decision-making by jurors (and possibly others), at least in cases where emotional valence and cost to the victim is high.

Understanding the likely circumstances under which the revenge system may be activated within institutionally administered punitive decision-making is a necessary step towards making such processes more balanced and fair. Activation of the revenge system is less

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36(1)**, 34-35.

likely in cases where the cost to the victim, and therefore levels of empathy, are relatively low (e.g., petty crimes, which constitute the majority of cases). In such instances, punitive decisions may be better explained and guided by considering socially-defined justice processes and norms. In contrast, as we have discussed, the revenge system cognitive architecture may be suitable for understanding decision-making in more emotionally-valenced cases and especially when jurors are involved.

Furthermore, research is urgently needed to understand potential between-individual differences in susceptibility to emotional involvement and its corollary effects on judgements and punitive decision-making. Our recent unpublished data, for example, suggest that personality traits predict levels of anger at transgressors and desire to punish them. Another example is potential gender differences in emotional involvement. In a scenario involving transgression in a public-goods game, men expressed a greater desire to punish 'cheats' than did women (O'Gorman et al. 2005). Men also showed different empathy-related activation responses than women in response to individuals who played unfairly in a study of another economic game, and were more likely to express desire for revenge and to favour physical punishment (Singer et al. 2006). Furthermore, it is now well-known that evolutionarily-relevant characteristics of the defendants (such as their sex and attractiveness), and shared characteristics between defendants and jurors (such as race or sexuality, triggering in-group/out-group prejudice), influence punitive sentiment and sentencing leniency or harshness (e.g., Abwender & Hough 2001). These findings may be explained through involuntary activation of the revenge system cognitive architecture.

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36(1)**, 34-35.

Although there are clear distinctions between the proposed revenge system in its current form and institutionally administered punishment decisions, the revenge system may be useful in explaining punitive decision-making in a number of applied contexts in the CJS, notably where jurors are involved and emotional valence in a case is high.

Through considering justice as a mediating factor alongside the already existing components of the revenge system, the theory may also be applicable at a more “socially driven,” justice-based decision-making level. A final potential use for the revenge system is in future investigations of punitive decision-making in the CJS relating to between-individual differences, such as personality and gender differences, as we have discussed. Through better understanding the ways in which individuals come to their decisions about punishment, improvements to punitive decision-making processes within the CJS will be made possible.

## References

- Abwender, D. A. & Hough, K. (2001) Interactive effects of characteristics of defendant and mock juror on US participants' judgment and sentencing recommendations. *Journal of Social Psychology* 141:603–15.
- Ho, R., ForsterLee, L., ForsterLee, R. & Crofts, N. (2002) Justice versus vengeance: Motives underlying punitive judgements. *Personality and Individual Differences* 33:365–77.
- Lapsley, J. N. (1998) Vengeance: The half hidden pillager of our lives. *Pastoral Psychology* 46:255–65.

This is a pre-publication final draft of the paper: Roberts, S. C., & Murray, J. (2013). Applying the revenge system to the criminal justice system and jury decision-making [comment on McCullough, M. E., Kurzban, R., & Tabak, B. A.]. *Behavioral and Brain Sciences*, **36(1)**, 34-35.

Lerner, M. J. (2003) The justice motive: Where social psychologists found it, how they lost it, and why they may not find it again. *Personality and Social Psychology Review* 7:388–99.

Murray, J., Thomson, M. E., Cooke, D. J. & Charles, K. E. (2011) Investigating the relationship between justice-vengeance motivations in punitive sentencing recommendations. *Legal and Criminological Psychology* [online ahead of print], doi: 10.1111/j.2044-8333.2011.02021.x

O’Gorman, R., Sloan Wilson, D. & Miller, R. R. (2005) Altruistic punishing and helping differ in sensitivity to relatedness, friendship and future interactions. *Evolution and Human Behavior* 26:375–87.

Price, M. D. (1997) Can mediation produce justice? A restorative discussion for mediators. *Signal* 1:1–6.

Roberts, S. C. (2012) *Applied evolutionary psychology*. Oxford University Press.

Singer, T., Seymour, B., O’Doherty, J. P., Stephan, K. E., Dolan, R. J. & Frith, C. D. (2006) Empathic neural responses are modulated by the perceived fairness of others. *Nature* 439:466–69.

Tsoudis, O. (2002) The influence of empathy in mock jury criminal cases: Adding to the affect control model. *Western Criminology Review* 4:55–67.