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Beliefs about God, the afterlife and morality support the role of supernatural policing in human cooperation☆

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Abstract

Reputation monitoring and the punishment of cheats are thought to be crucial to the viability and maintenance of human cooperation in large groups of non-kin. However, since the cost of policing moral norms must fall to those in the group, policing is itself a public good subject to exploitation by free riders. Recently, it has been suggested that belief in supernatural monitoring and punishment may discourage individuals from violating established moral norms and so facilitate human cooperation. Here we use cross-cultural survey data from a global sample of 87 countries to show that beliefs about two related sources of supernatural monitoring and punishment — God and the afterlife — independently predict respondents' assessment of the justifiability of a range of moral transgressions. This relationship holds even after controlling for frequency of religious participation, country of origin, religious denomination and level of education. As well as corroborating experimental work, our findings suggest that, across cultural and religious backgrounds, beliefs about the permissibility of moral transgressions are tied to beliefs about supernatural monitoring and punishment, supporting arguments that these beliefs may be important promoters of cooperation in human groups.

Keywords: Religion; Afterlife; Supernatural beliefs; Prosociality; Cooperation; Supernatural punishment; Supernatural monitoring

1. Introduction

Group living in modern humans is characterized by a unique level of cooperation and exchange among large numbers of unrelated individuals. We rely on others for information, aid and resources, and we are willing to share information, aid and resources with others whom we may never see again. Despite advantages as a survival strategy, this system of trust and reciprocity is vulnerable to exploitation by free riders or cheats who reap the benefits of the group without contributing their share to the common pool. Nevertheless, humans appear to have overcome, or at least mitigated, the free-rider problem and are able to maintain cooperative social networks for indefinite periods.

Recently, there has been increasing interest in the role played by religion in the origin and evolution of human cooperation and prosociality (Alcorta & Sosis, 2005; Dunbar, 2009; Johnson, 2005; Johnson & Bering, 2006; Johnson & Krüger, 2004; Monsma, 2007; Norenzayan & Shariff, 2008; Pyysiäinen & Hauser, 2010; Richerson & Boyd, 1998; Roes & Raymond, 2003; Rossano, 2007; Ruffle & Sosis, 2007; Snarey, 1996; Sosis & Alcorta, 2003; Wilson, 2002). Whilst some argue that religion is simply a cultural parasite (Blackmore, 1999; Dawkins, 1976, 2006; Dennett, 2006) or evolutionary by-product of other adaptive processes (Atran, 2002; Barrett, 2000; Boyer, 2001; Guthrie, 1993; Pyysiäinen & Hauser, 2010), others see it as providing fitness advantages by guarding against free-riding and facilitating group cohesion, cooperation and trust (Alcorta & Sosis, 2005; Dunbar, 2009; Richerson & Boyd, 1998; Sosis & Alcorta, 2003; Sosis, Kress, & Boster, 2007; Wilson, 2002).

The claim that religion increases prosocial behaviour is supported from a number of sources. Members of religious

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congregations and regular churchgoers are more likely to report giving time and money to charities than non-members or those who attend church less regularly (Monsma, 2007). Experimental work indicates that religious individuals are also both more trusting and more trusted in cooperative economic games (Tan & Vogel, 2008). Perhaps the most convincing evidence, however, comes from studies of religious organizations themselves. Controlling for other relevant predictors, studies found that males in religious Kibbutzim are more likely to cooperate in economic games than males from secular Kibbutzim, with the highest rates of cooperation among those males who most regularly engage in collective rituals (Ruffle & Sosis, 2007; Sosis & Bressler, 2003). A historical survey of 19th century communes showed that religious communes were four times as likely to survive each year than secular communes (Sosis & Bressler, 2003) and that those religious (but not secular) communes with stricter taboos and prohibitions lasted longest.

It remains unclear exactly why religion should have this effect. Dunbar (2009) argues that endorphin release during intensely arousing rituals, such as communal singing or trance dancing, may directly enhance bonding within small groups. Irons (1996a,b) has used signalling theory from biology to argue that restrictive taboos or costly rituals (that are risky, unpleasant or demanding of time and resources) promote trust and cooperation more indirectly by providing reliable signals of commitment to the group. However, the finding that religious groups are more prosocial and robust than their statistically controlled secular counterparts suggests that there is more to religious cooperation than participation and proscription.

The nature of religious belief itself is also thought to influence levels of cooperation (Bering, 2006; Johnson & Krüger, 2004; Norenzayan & Shariff, 2008; Roes & Raymond, 2003; Snarey, 1996; Stark, 2001). Stark (2001) has shown that strength of belief in God is a better predictor of prosocial attitudes than church attendance. This raises the question of what it is about the beliefs religious individuals hold that could promote prosociality. One mechanism that has been put forward is that belief in the existence of a supernatural agent or agents can increase prosocial behaviour merely by creating the perception of being watched. Reputational concerns are known to be crucial for motivating and maintaining cooperation towards public goods in human groups (Lotem, Fishman, & Stone, 1999; Milinski, Semmann, & Krambeck, 2002; Nowak & Sigmund, 1998a,b). 'Supernatural monitoring' is hypothesized to activate cognitive architecture associated with reputation management and so promote prosocial behaviour (Johnson & Bering, 2006; Rossano, 2007). Consistent with this proposal, even subtle, subliminal primes of monitoring, such as an image of 'watching eyes' (Bateson, Nettle, & Roberts, 2006; Haley & Fessler, 2005) or three dots oriented to reflect a face (Rigdon, Ishii, Watabe, & Kitayama, 2009), can increase some prosocial behaviours (cf. Fehr & Schneider, 2009), particularly towards in-group members (Mifune, Hashimoto, & Yamagishi, 2010). Regarding supernatural primes, Bering, McLeod, and Shackelford (2005) found that subjects told that a ghost had been seen in the lab were significantly less likely to cheat on a competitive task. Similarly, Shariff and Norenzayan (2007) have shown that implicitly priming God concepts is at least as effective at increasing generosity in an anonymous dictator game as priming secular moral institutions. If such subtle monitoring cues can affect prosocial tendencies, it seems plausible that strongly held belief in an ever-present God or spirits that are always watching could have a similar effect.

Belief in supernatural agents may also promote prosociality by providing a threat of punishment for non-cooperation (Johnson & Krüger, 2004). The viability of cooperation within human groups is thought to rely on the potential to punish free riders or reward prosocial behaviour (Boyd, Gintis, Bowles, & Richerson, 2003). However, such enforcement generally incurs a cost that must be borne by those in the group. Enforcement, then, is itself a public good subject to exploitation by free riders. Economic games under anonymous laboratory conditions have revealed that humans are willing to pay a cost to punish free riders (Fehr & Gachter, 2002; Gintis, Bowles, Boyd, & Fehr, 2003) or reward cooperators (Rand, Dreber, Ellingsen, Fudenberg, & Nowak, 2009), but it is not clear to what extent this generalizes to real-world social interactions. Such a strategy remains vulnerable to exploitation by 'second-order free riders' who avoid the cost of punishment, unless those who shirk punishing duties are themselves punished (and those who shirk the punishing of non-punishers are punished, and so on) or there is some external policing mechanism (Henrich & Boyd, 2001). The supernatural punishment hypothesis (Johnson & Krüger, 2004) holds that the threat of supernatural punishment (in this life or the afterlife) arising from belief in morally concerned supernatural agents can help enforce cooperative norms by exporting the cost of enforcement to ostensibly infallible supernatural forces beyond the group. Belief in a punitive supernatural agent can, in principle, exert this effect without requiring that the imagined agent actually punishes free riders — it is enough that group members perceive such a threat.

By deterring free riders and reducing enforcement costs, supernatural policing may have played an important role in human evolution, increasing group stability and cooperation towards public goods (Johnson & Krüger, 2004; Norenzayan & Shariff, 2008). This hypothesis finds some support from cross-cultural data. Johnson (2005) has shown that the presence of moralizing 'high gods' — defined as active in human affairs and specifically supportive of human morality (Swanson, 1960) — is associated with some indices of societal cooperation such as taxation, policing and measures of norm compliance, although only two of these relationships remain significant after controlling for regional effects and influence of world religion. To the extent that supernatural policing can promote prosocial behaviour, belief in a morally concerned deity should be selected for