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Original Article

The cost of cowardice: punitive sentiments towards free riders in Turkana raids ☆

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ABSTRACT

Models indicate that large-scale cooperation can be sustained by indirect reciprocity or direct punishment, but the relative importance of these mechanisms is unresolved. Unlike direct punishment, indirect sanctions can be meted out without cost to the sanctioner, but direct punishment is advantageous when the scale of cooperation exceeds the network size of individuals. It is of great interest to assess the importance of these mechanisms in small-scale acephalous groups in which people have lived for most of our evolutionary history. Here we evaluate sentiments towards free riders in combat among the Turkana, an acephalous nomadic pastoral society in East Africa who periodically mobilize for cattle-raids against neighboring ethnic groups. Using vignette studies, we probed participants' motivation to sanction fictitious warriors who were cowards or deserters in a raid and compared it respectively to their reactions to an unskilled warrior or a warrior who turns back due to illness. Our results indicate that the Turkana are motivated to impose both indirect and direct sanctions on cowards consistent with indirect reciprocity and punishment models of cooperation. Our findings imply that both these mechanisms have shaped human cooperative psychology, and sheds light on how prestate societies solve the collective action problem in warfare.

1. Introduction

Informal mechanisms of social control are thought to play an important role in enabling large-scale human cooperation (Fehr, Fischbacher, & Gächter, 2002; Gintis, Bowles, Boyd, & Fehr, 2005; Henrich et al., 2004; Sigmund, 2007), but there remain three contentious issues. The first is the relative importance of direct punishment and indirect sanctions and rewards in maintaining cooperation. Indirect sanctions (Nowak & Sigmund, 1998; Panchanathan & Boyd, 2004) have the advantage that they can be imposed without cost to the sanctioner. In contrast, it is usually costly to implement direct punishment (Boyd, Gintis, Bowles, & Richerson, 2003; Brandt, Hauert, & Sigmund, 2006) and this creates a second-order free rider problem (Yamagishi, 1986). However, the information quality of reputational systems declines as the social group gets larger (Panchanathan & Boyd, 2003) making indirect reciprocity less efficient as the scale of cooperation increases (Henrich et al., 2010). Several factors can ameliorate the cost of meting out punishment—for example, collective coordinated punishment (Boyd, Gintis, & Bowles, 2010), rare implementation of punishment (Sethi & Somanathan, 1996), and centralized coercive institutions (Hooper, Kaplan, & Boone, 2010). Consistent with this reasoning, fines and imprisonment play a crucial role in maintaining law and order in state societies, and sanctioning institutions with these properties emerged independently many times in the course of cultural evolution.

The second issue is what forms of sanctions are more efficient from a group functional perspective. In some experiments punishment induces cooperation but does not increase average group payoffs because both meting and receiving punishment are costly (Dreber, Rand, Fudenberg, & Nowak, 2008; Rand, Dreber, Ellingsen, Fudenberg, & Nowak, 2009). This has led researchers to argue that withholding help from defectors and rewarding cooperators are more plausible mechanisms than direct punishment for sustaining human cooperation (Dreber et al., 2008; Ohtsuki, Iwasa, & Nowak, 2009; Rand et al., 2009). However, laboratory experiments show that participants are motivated to punish free riders, and giving them the opportunity to do so can greatly increase the level of cooperation (Bernhard, Fischbacher, & Fehr, 2006; Fehr & Gächter, 2002; Gurerk, Irlenbusch, & Rockenbach, 2006; Henrich et al., 2006). The observations in Dreber et al. (2008) and Rand et al. (2009) that average group payoffs are lower when direct sanctioning occurs could be because the experiments limit interactions to 10 periods. With a longer time horizon of 50 periods, punishment leads to higher payoffs (Gächter, Renner, & Sefton, 2008). In an indirect reciprocity game with the option of punishment, (Ule, Schram, Riedl, & Cason, 2009), although only a small proportion of participants opted to punish rather than withhold help from a defector, their action had the crucial effect of causing defectors to have lower average payoffs than cooperators.

The third issue is whether there is sufficient evidence that sanctions play a role in maintaining cooperation outside of laboratory experiments. A recent paper (Guala, 2012) challenged the relevance of

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punishment in supporting cooperation in field contexts saying, "…in spite of some often-repeated claims, there is no evidence that cooperation in the small egalitarian societies studied by anthropologists is enforced by means of costly punishment." Consequently, Guala contends, it is premature to infer that laboratory experiments replicate mechanisms that support real-world cooperation. Some researchers have argued that Guala paints an overly pessimistic portrayal of the existing empirical evidence (Bowles, Boyd, Mathew, & Richerson, 2012; Casari, 2012). Nonetheless, it remains the case that there are not enough systematic field studies of punishment in small-scale societies to be sure that peer sanctions enable human cooperation.

Below we report results from a study of punitive sentiments towards free riders in combat among the Turkana (Gulliver, 1966; Little & Leslie, 1999; McCabe, 2004), a nomadic pastoral society in East Africa that sheds light on these issues. The Turkana are politically uncentralized, egalitarian, and lack economic specialization and centralized institutions of coercive authority. So peer sanctions and rewards are the mechanisms by which social order may actually be maintained. The Turkana periodically organize large-scale raids against neighboring ethnic groups to acquire cattle, and gain access to pasture and watering sites (Mathew & Boyd, 2011). These raids create a collective action problem. Raiding parties are large, involving up to few hundred warriors, most of whom are unrelated and are drawn from different territories, settlements and age-cohorts within Turkana society. Participants risk death—one percent of the combatants are killed on average on a raid. The primary benefit is the looted livestock, which can be had only if one goes on the raid. But on the battlefield warriors have many opportunities to reduce their personal contribution to the joint enterprise. They can keep their heads down, advance later than fellow combatants, escape when the enemy fire, retreat too early, and shift their efforts from fighting the enemy to acquiring a share of the loot. Therefore cowardice on the battlefield is a form of free riding. Furthermore, those who do not join the raid garner some of the benefits of victory such as enlarged territory and deterrence of future attacks. Therefore desertions from the raiding party are also a form of free riding.

We conducted two vignette studies designed to probe Turkana attitudes towards cowardice and desertion. First-hand accounts by participants in raids indicate that cowardice and desertions occur and are sometimes sanctioned either verbally or through corporal punishment and fines (Mathew & Boyd, 2011). But some questions about punitive sentiments are difficult to assess using interviews about actual raids. First, many factors besides the norm violator's behavior on a particular raid influence whether he will be punished: Is it the first time he did this? Was his life in immediate danger? Were other men doing the same? Is he an otherwise responsible herdsman? Second, indirect sanctions like loss of help, social support or mating opportunities cannot easily be measured because a warrior's reputation results from events over several years, not events during a single raid. The vignette studies address these limitations by investigating the effect of the act itself on the motivation to impose direct and indirect sanctions, holding constant idiosyncratic factors that affect a particular violator's chances of facing sanctions.

In each study, we compared people's reaction towards free riding to their reaction to a warrior who fails to contribute due to inability rather than effort. Experimental research has established that people care about the intentions behind selfish outcomes: they punish more harshly if a selfish outcome is due to a selfish intention than if the selfish outcome is unintended (Falk, Fehr, & Fischbacher, 2003, 2008). This motivation predicts that cowards or deserters should be treated more harshly than unable or ill warriors. In the cowardice study we compared a coward with an unskilled warrior. In the desertion study we compared a warrior who turns back due to fear with one who turns back due to illness. The results of the cowardice study are consistent with indirect reciprocity and direct punishment models of cooperation, and speak to how the Turkana solve the collective action problems created by raiding.

2. The Turkana

The Turkana are a nomadic pastoral society in northwest Kenya numbering approximately 800,000 people, subdivided into two-dozen territorial sections. They subsist on livestock products like milk, blood and meat obtained from cattle, camels, sheep and goats, and agricultural products that they obtain through trade (Gulliver, 1966; Little & Leslie, 1999; McCabe, 2004). Because rainfall is scant and unpredictable, they live year-round in temporary camps and relocate periodically to access fresh grass and water. A herdsman may settle anywhere in his own territorial section and can settle elsewhere in Turkana territory with permission from the hosts. Households make autonomous migration decisions, and so the composition of a settlement – the households that have set up camp together – is fluid. In the wet season, family members aggregate in settlements called *adakars*. In the dry season they separate into highly mobile cattle camps managed by young adults, and less mobile camps for the browsing stock where elders, married women and children reside. In the Kwatela territorial section where the study was conducted, dry-season wells and pastures are in the peripheral parts of the territory close to areas used by the Toposa and Dodoths pastoralists. When migrating to these areas, the Kwatela form dense settlements called *arigans* that are better for joint defense in the event of a raid by the Toposa or Dodoths. Turkana society is divided into alternating generation sets, *erisait* (leopard) and *emorut* (stone) (Lamphear, 1989). Additionally men are also subdivided into age-groups (Gulliver, 1958; Lamphear, 1976b). Age groups are a key organizing institution for men in contemporary north Turkana. Age mates sit together during feasts, stay near each other during raids, and herd together. Senior age groups have authority over juniors, and age-mates behave as equals. Patrilineal descent groups form clans. Clan members are geographically dispersed and are less important than age-based groupings when organizing for raids (Gulliver, 1958; Lamphear, 1989). Turkana society is politically uncentralized. Settlements have prominent warriors and diviners who act as leaders, but leaders are not vested with coercive authority. The community discusses violations and punishment is meted out by the violator's age-mates.

The Turkana periodically raid cattle from the settlements of neighboring pastoral communities. In the area where the study was conducted, raids are launched most often against the Toposa and the Dodoths. Warriors go either on small stealth missions to clandestinely take a few cows or in large armies of few hundred warriors that engage in a firefight and seize many cattle. In the past these raids were fought with spears (Lamphear, 1988), and for the last three decades they are fought using firearms that proliferated in the late 1970s to 1980s (Mburu, 2001). There is no professional warrior class and men are recruited informally to join a raid. The settlement initiating the raid sends word out to other settlements and over the course of the next few days warriors who intend to participate arrive. As they wait and plan their mission, they feast on animals speared for the occasion, join in the warrior dances, encourage each other, and receive blessings from the elders. Although commercial cattle raiding is on the rise in contemporary herding communities in East Africa (Mkutu, 2006), community-endorsed non-commercial raiding is typical in north Turkana where the fieldwork was conducted.

3. Methods

Participants are told a short hypothetical story in which a focal warrior fails to contribute to the combat effort. After they narrate the story back to us, they are asked a series of questions designed to elicit how they judge the act and whether they think the character should be directly or indirectly sanctioned. Each question had two parts: an open-response stage where participants could freely express their opinion, followed by a forced-choice stage in which they were prompted to pick