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Physically strong men are more militant: A test across four countries

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ABSTRACT

There is substantial evidence from archaeology, anthropology, primatology, and psychology indicating that humans have a long evolutionary history of war. Natural selection, therefore, should have designed mental adaptations for making decisions about war. These adaptations evolved in past environments, and so they may respond to variables that were ancestrally relevant but not relevant in modern war. For example, ancestrally in small-scale combat, a skilled fighter would be more likely to survive a war and bring his side to victory. This ancestral regularity would have left its mark on modern men's intergroup psychology: more formidable men should still be more supportive of war. We test this hypothesis in four countries: Argentina, Denmark, Israel, and Romania. In three, physically strong men (but not strong women) were significantly more supportive of military action. These findings support the hypothesis that modern warfare is influenced by a psychology designed for ancestral war.

1. Introduction

By coordinating their actions, animals can greatly increase their effectiveness. However, this coordination has sizeable evolutionary barriers to its evolution; e.g., free riders can parasitize others' investment in collective actions (Delton, Cosmides, Guemo, Robertson, & Tooby, 2012; Delton & Sell, 2014; Ostrom, 2010). Nonetheless, coordinated actions do evolve in many species, either via kin selection (e.g. social insects, Hamilton, 1964) or through other means still being mapped by evolutionary psychologists and behavioral ecologists (Boyd, Gintis, & Bowles, 2010; Cosmides & Tooby, 1992; Delton et al., 2012; Ostrom, 2010; Panchanathan & Boyd, 2004). We know that these evolutionary barriers have been overcome, however, because animals evidence these behaviors; e.g., collective hunting is common in some mammals (e.g. Creel & Creel, 1995) and is understood as a collective action problem with scavengers as the defectors (see Packer & Ruttan, 1988).

Given the widespread importance of aggression in the animal kingdom (Huntingford & Turner, 1987), there would have been a selective advantage to organisms that coordinated their aggression toward a common opponent, because such coordination would enhance an individual's own formidability. Provided that evolutionary barriers such as free-riding were overcome, engaging in coalitional aggression would be selected for in species where aggression was common.

Convergent evidence now shows that these preconditions have been met for our own species, and that we come from a long evolutionary history of war (Gat, 2015; LeBlanc & Register, 2003; Pinker, 2011; van der Dennen, 1995). Such evidence comes from multiple sources, including: evidence of coalitional killing among chimpanzees (Wrangham & Glowacki, 2012), ethnographic surveys of modern societies showing that war is prevalent in virtually all known cultures (Otterbein & Otterbein, 1965; Otterbein, 1968, 2004), archeological evidence of slaughter and weapon hording (Keeley, 1996, 1997), and psychological evidence of coalitional thinking (Tooby & Cosmides, 2010; Van Vugt, De Cremer, & Janssen, 2007).

1.1. Warfare in chimpanzees

The closest living relatives of our species are the bonobos and chimpanzees. Chimpanzees live in patrilocal groups who compete against rival groups for access to territory and feeding grounds. Aggression is common among chimpanzees and particularly among chimpanzee males (Wrangham, Wilson & Muller, 2006). And like human males (Sell, Hone, & Pound, 2012), male chimpanzees show evidence of combat design (e.g. males are larger than females, have larger teeth, mature

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later, and die earlier). Unlike gorillas, bonobos, and orangutans, chimpanzees are known to engage in coalitional aggression with their male allies. These groups patrol their territory and capitalize on temporary asymmetries in group size to eliminate outgroup members.

The mechanisms that give rise to inter-group aggression in chimpanzees appear to have been designed by natural selection to expand territory and get access to food and mates. In short, the propensity for war is part of chimpanzees' evolved nature. We know this because group aggression in chimpanzees bears the hallmark of natural selection: complex functional design (Williams, 1966). Features of chimpanzee aggression that illustrate this design include:

i) coalitional aggressors are composed almost entirely of the sex that benefits the most from increased mating opportunities (i.e. males, Wilson et al., 2014)
ii) coalitional aggressors frequently exempt adult females from aggression and may focus instead on males and infants (Wrangham & Glowacki, 2012; Wilson et al., 2014; though see Pradhan & Pandit, 2014)
iii) lethal aggression is timed to periods of asymmetric fighting ability such as when one group greatly outnumbers another (Wilson et al., 2014), the result being that attackers are rarely seriously injured (Watts, Muller, Amsler, Mbabazi, & Mitani, 2006)
iv) the aggression is often preceded by coordinated forays and patrols, often into enemy territory
v) individual chimpanzee males who would benefit most from increased territory are often the ones who instigate these patrols for their group (e.g. those males who are more likely to mate with parous females patrol more frequently, Watts & Mitani, 2001)
vi) chimpanzee males who are superior fighters, and thus are less likely to be injured during aggressive encounters, are more likely to patrol, e.g. males who were good hunters patrolled more (Watts & Mitani, 2001), and males who are higher in rank travelled further when they visited the periphery of their territory where coalitional aggression was more likely to take place (Wilson, Kahlenberg, Wells, & Wrangham, 2012).

While our understanding of chimpanzee cognition is limited, these findings suggest that chimpanzee minds (at least those of males) have been designed by natural selection to coordinate lethal aggressive action and exploit asymmetries in power so as to target and eliminate enemy males and infants. The preconditions that resulted in this selective regime were most likely present among human ancestors as well, e.g. patrilocality,[1] fission-fusion grouping, territoriality, cognitive mechanisms allowing cooperation and collective actions, male design for aggression, and polygyny (Wrangham & Glowacki, 2012; Tooby & DeVore, 1987; see also Zefferman & Mathew, 2015).

1.2. Universality of warfare

How widespread is war among humans? While different definitions of "war" will return different answers, coalitional aggression in the form of feuding or raiding has been found in almost all known cultures (Pinker, 2011; Wrangham & Glowacki, 2012), and among humans' earliest civilizations for which we have data (Gat, 2015; Keeley, 1996, 1997; LeBlanc & Register, 2003; Otterbein, 2004; van der Dennen, 1995). Furthermore, coalitional aggression appears more common in populations whose lifestyles resemble our ancestors', e.g. both patrilocality and polygyny predict coalitional aggression (Otterbein, 1968; Otterbein & Otterbein, 1965), and aggression is far more prevalent among foragers than among modern nation-states (Eisner, 2003; Pinker, 2011).

There are, of course, human civilizations that have forgone war for many generations, e.g., the Jains, the Amish, the Lapps. These exceptions are exceedingly rare, however, and tend to exist as subpopulations protected by larger nation-states. The bulk of the evidence indicates that human societies have engaged in group aggression throughout recorded history and before (Pinker, 2011).

There is also more direct evidence that human psychology, and in particular male psychology, has been shaped by this inter-group conflict. For example, in public goods games males contributed more to their own coalition when they were put in a context of inter-group competition. When women (sampled from the same population) were put in inter-group competition it had little effect on their contributions to their own group (Van Vugt et al., 2007). Human prejudice and discrimination aimed at outgroup members is also consistent with the view that the human mind (particularly the male mind) was designed for coalitional aggression (see McDonald, Navarrete, & Van Vugt, 2012). Perhaps most convincingly, an analysis of the structure of human moral systems shows that they function to regulate coalitional living generally and group conflict in particular (Tooby & Cosmides, 2010).

We conclude that a selective regime has been in place favoring designs in men that navigate the costs and benefits of war in ways that increased their reproduction in past environments. In other words, modern men should be designed for ancestral-style warfare (Tooby & Cosmides, 1988). Therefore, men who would have been more likely to survive and benefit from war ancestrally should be more supportive of war now. Because modern warfare differs from ancestral warfare, the variables that predict whether a man would have survived and benefited from war may no longer be predictive in a modern industrial society. For example, ancestral weapons were powered by the upper body (Brues, 1959) whereas casualties caused by hand-to-hand combat are extremely rare in modern war (e.g. one study of casualties in Iraq showed 56% of the dead were killed by gunshots, 27% died to car bombs or other explosives, 13% to airstrikes, 2% to accidents, and only 2% expired from unknown causes which may have included deaths caused by knives, bayonets, or unarmed combat; Burnham, Doocy, Dzeng, Lafta, & Roberts, 2006).

1.3. Fighting ability and warfare

If natural selection designed mental adaptations to navigate the selection pressures inherent in ancestral warfare, then such mechanisms should regulate an individual's support for war as a function of variables that – ancestrally – predicted the reproductive consequences of advocating for war in that individual and their kin. In the small-scale, technologically-sparse world of ancestral warfare, men with superior fighting ability would have been more likely to survive a war, to lead his side to victory, and to receive a sizeable portion of the spoils of war (Chagnon, 1988; Escasa, Gray, & Patton, 2010; Van Vugt et al., 2007). Therefore, men who are better physical fighters today should still favor war as a tactic in resolving group disputes more so than men who are poor fighters (prediction #1). Furthermore, because war has been (and still is) almost exclusively a male activity the relationship between fighting ability and preference for coalitional aggression should be limited to men (prediction #2). Previous research has confirmed these predictions on two samples of US subjects (Sell, Tooby & Cosmides, 2009; see also Sell et al., 2012). In this paper, we report additional tests of these predictions on men and women from Argentina, Denmark, Israel, and Romania.

2. Methods

We tested the hypothesis that fighting ability in men (but not women) tracks support for military action in four countries.

[1] Though the degree of patrilocality in modern foragers is arguably less than once thought and certainly less than chimpanzees (see Hill et al., 2011). Interestingly, in Hill et al.'s sample of 32 foraging societies, brothers were particularly likely to coreside.