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Adaptive Function of Aggression

Kevin Bennett
Department of Psychology, Pennsylvania State
University, Beaver, Monaca, PA, USA

Synonyms

[Coercion](#); [Hostility](#)

Definition

The psychological mechanisms that govern aggression – a violent or hostile action toward another – may have evolved as solutions to a number of recurring adaptive problems faced by our ancestors.

Introduction

From the perspective of evolutionary psychology, the origin of aggression cannot be explained by one exclusive hypothesis. Instead, aggression might be an evolved solution to several adaptive problems (Buss and Shackelford 1997). Resource protection and acquisition, intrasexual rivals, status negotiations, and partner sexual infidelity all stand out as possible adaptive problems that gave rise to aggression as a solution.

Resource Control

Aggressive behavior, from an adaptive point of view, is beneficial if it improves the probability of survival and reproduction. Victims of physical attacks risk death, injury, harm to mates and offspring, loss of resources, and status. Aggression against attacking enemies would be an adaptive solution to the problem of resources being forcibly poached. Also, it can be used to develop a reputation that deters other possible attackers.

In addition to resource protection, aggression serves as a means of co-opting the assets of others (Buss 1999). Adult forms of aggressive resource acquisition include mugging, bullying, and forming warfare coalitions to raid communities for land and mates.

Intrasexual Rivals

Why is male aggression highest during late adolescence and early adulthood? One explanation is that competition for status and mates is most intense during this period. Men may become aggressive when social status is challenged especially in the context of competing for mates. Aggressive attacks on same sex rivals who are competing for access to opposite sex mates can range from verbal derogation to homicide (Buss 1999). This hypothesis suggests that both men and women often share intense interest in outcompeting same-sex rivals.

Negotiate Status and Hierarchies

In many cultures, the victor in a physical fight may reap the benefits status elevation. Men who kill in war or expose themselves to dangerous combat are considered brave and are rewarded for their courage. Modern spectator sports such as boxing, football, hockey, and wrestling represent a ritualized aggression that spoils the winner with fame and notoriety. The temptation to act aggressively in order to maintain status is also evident in controlled experiments. Griskevicius and others (2009) found that college men were more aggressive in face-to-face confrontations when they were motivated to increase their status on campus.

Deter Sexual Infidelity

Romantic partner sexual infidelity represents a specific context that can often heighten aggression. Male sexual jealousy is the leading trigger for spousal battery (Daly et al. 1982). Although extremely abhorrent, some males engage in abuse to deter wives and girlfriends from interacting with other men.

The Role of Testosterone

Numerous studies have found that blood chemistry can influence neural sensitivity to aggressive stimulation. For example, the well-known correlation between aggression and the male sex hormone testosterone appears to be a two-way street. Higher levels of testosterone may cause dominant and aggressive responses, but aggressive behavior can also produce higher testosterone levels. Testosterone levels of sports fans surge after a victory and fall in the losing fans (Bernhardt et al. 1998). Similarly, assaults following rugby and soccer matches were more likely to be committed by fans of the winning team than the losing team (Sivarajasingam et al. 2005). Men who voted for the winning candidate in the 2008 US presidential election showed higher testosterone levels compared to men who voted for the losing candidate (Stanton et al. 2009). In a rigged face-to-face

laboratory experiment, socially anxious men displayed a drop in testosterone after losing a competition (Maner et al. 2008).

The Face of Aggression

During development the width-to-height ratio of male faces is affected by testosterone. Men with wider faces, reflecting higher levels of testosterone, are more aggressive both in and out of the laboratory. Wide-faced college and professional hockey players spend more time in the penalty box (Carré and McCormick 2008) and are evaluated as being less trustworthy and more aggressive by others in laboratory experiments (Stirrat and Perrett 2010).

Conclusion

Aggression is a context specific behavior that may have been an evolutionary solution to a number recurring problems of social living. From this standpoint, aggression is designed by natural selection to be sensitive to distinct adaptive problems confronted in distinct contexts – it is not a monolithic or inflexible strategy that functions blind of context.

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