



Two Sides of the Same Coin? Viewing Altruism and Aggression Through the Adaptive Lens of Kinship

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Abstract

Are altruism and aggression polar opposites, or are they two sides of the same coin? In this review, the authors examine the evolved biological roots of these behaviors and focus on the psychology of kinship and how it can serve to bridge both behaviors. Drawing on inclusive fitness theory (Hamilton, 1964), the kinship, acceptance, and rejection model of altruism and aggression (KARMAA; Webster, 2008), and a sociofunctional threat-based approach to prejudice (Cottrell & Neuberg, 2005), the authors propose that altruism and aggression can be viewed as two sides of the same coin depending on context and perspective. For example, a mother bear protecting her cubs by attacking a predator may be simultaneously exhibiting an act of altruism and aggression. After offering some empirical support for their view, the authors discuss the theoretical and practical implications of viewing altruism and aggression as related constructs at the intrapersonal, interpersonal, and intergroup levels.

We all walk a fine line between the desire to help and the desire to harm. When, why, how, and the degree to which we cross that line between prosocial and antisocial behavior – between altruism and aggression – depends not only on our dispositions and immediate social situations, but also our evolved cognitive architecture – a mind that was designed over hundreds of thousands of years to survive and thrive in small groups. But just how fine is the line between altruism and aggression? Crucially, a given behavior can be viewed as altruistic or aggressive depending on one's perspective or group alliance. This becomes especially clear when viewed through the lens of our evolved sense of psychological kinship.

Before we begin, however, we must define altruism and aggression. *Altruism* is behavior solely intended to help another being at cost to the altruist, whereas *aggression* is behavior with the intent to injure another being (Kenrick, Neuberg, & Cialdini, 2010). As we will show, however, intentional behaviors to help or harm another can depend on one's perspective or group affiliation. We begin this article by reviewing theoretical perspectives on altruism and aggression, with special attention to those that incorporate kinship. We then critically examine empirical research linking kinship to altruism and aggression, and speculate on a novel, controversial hypothesis: that altruism and aggression can be one and the same relative to one's perspective. We believe our view is controversial because altruism and aggression are often treated as independent, mutually exclusive behaviors in psychology. Although nearly every social psychology textbook offer separate – yet often adjacent – chapters devoted to each behavior, rarely do they share common

theories, methods, or researchers. We conclude by proposing some new directions for future research at the intersection of aggression and altruism.

All in the Family: Evolutionary Perspectives on Altruism and Aggression

The biological and social sciences have advanced several theoretical perspectives on why humans and other animals help and harm conspecifics (i.e., members of the same species). For instance, in social psychology, much research has focused on empathy (Batson et al., 1988) and perceived oneness (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997) as proximal causes of altruism and helping behavior. Similarly, the General Aggression Model (GAM; Anderson & Bushman, 2002; DeWall, Anderson, & Bushman, 2011; Figure 1) successfully integrates not only the biological, environmental, personal, and situational antecedents of aggression, but also the appraisal and decision processes that people face when they choose to engage in – or walk away from – a potentially aggressive social encounter. Despite these advances, many social psychological theories either underplay or ignore crucial biological components and potential distal factors that affect altruism and aggression (Daly, Salmon, & Wilson, 1997). In this section, we first describe multiple evolutionary psychological perspectives on altruism and aggression and then show how they can be extended to complement social psychological perspectives.

Inclusive fitness theory

Altruism once perplexed evolutionary biologists. How could altruism – a behavior that by definition can incur serious survival or reproductive costs on the altruist – be naturally selected? If there were a genetic association (e.g., polygenic polymorphism or allelic association), then surely the survival costs of altruism would have selected against it over evolutionary time. Nevertheless, altruism exists and persists; it not only survives, but also thrives in our species.

How can this be? Hamilton (1964) believed that altruism could be indirectly selected for if the altruist's close relatives were the beneficiaries of altruistic acts, given that blood relatives share copies of the altruist's genes. In other words, assuming a genetic association with altruism, if the altruist's altruistic act confers some benefit on his or her kin, then altruism could still be selected for because the recipients of the altruism – close kin – might have a better chance of survival or reproduction than they would without an altruist in the family, because those close kin also carry copies of the genetic polymorphism purportedly associated with altruism.

Imagine for a moment that three of your siblings are drowning in a small pond. Each of your full siblings has a 0.5 probability of sharing a given gene on average (given that each sibling represents an independent assortment of the same parents' genetic material). If we sum these probabilities across your three siblings we get 1.5, which is greater than unity (1.0) – the probability that you share a gene in common with yourself. Collectively, your three full siblings contain more of your genes than you do. Hamilton's (1964) inclusive fitness theory would predict that it would be in your best interest, genetically speaking, for you to sacrifice your own life (1.0) to save the lives of all three of your siblings (1.5) because the net benefit to your genes by keeping your three siblings alive (who share copies of your genes) is greater than the net benefit of saving yourself (i.e., $1.5 > 1.0$). If, however, we replace your three siblings with three first cousins – with whom you have a 0.125 probability of sharing a given gene – then inclusive fitness

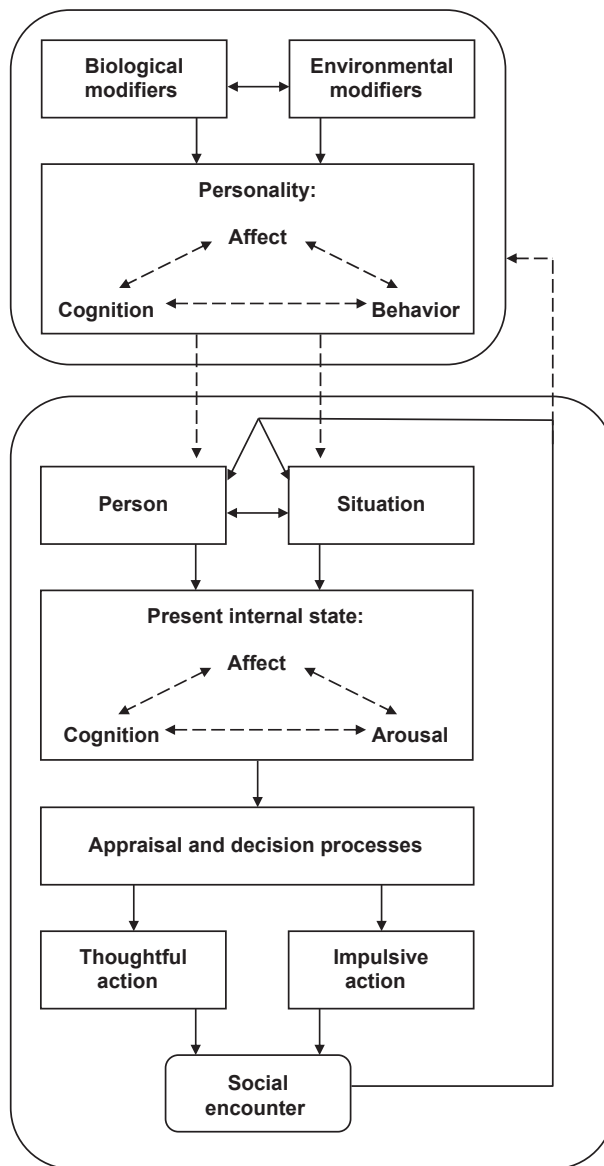


Figure 1 The General Aggression Model (GAM; adapted from DeWall et al., 2011) with an expanded personality component that integrates and distinguishes among affective, cognitive, and behavioral forms of trait aggression.

theory would predict that you would typically save yourself, because $1.0 > 0.375$ (i.e., 3×0.125). Hamilton quantified inclusive fitness theory with a simple inequality, $C < rB$, where C represents the cost to the altruist, r represents the coefficient of relatedness between the altruist and the target(s), and B represents the benefit to the target(s). Thus, inclusive fitness theory predicts that animals – including humans – will engage in altruistic behavior if the net benefit to would-be altruists – measured in copies of their genes to be saved in their relatives – exceeds the cost to the would-be altruists (e.g., loss of life, and hence, genes).

Inclusive fitness theory – as applied to explaining altruism – has received considerable empirical support in both human and animal models. We highlight some of these studies in the Kinship and Altruism subsection below. Although inclusive fitness theory does an efficient job of explaining the distal, genetic underpinnings of altruism, it does not explicitly attempt to include any proximal, social mechanisms or processes that may mediate the relationships between genetic relatedness and altruism such as kin detection (Lieberman, Tooby, & Cosmides, 2007) or emotional closeness (Korchmaros & Kenny, 2001, 2006). Crucially, although inclusive fitness theory has been widely adopted as a biological explanation of altruism, it has rarely been applied to understanding the flipside of altruism – aggression. Nevertheless, absence of evidence does not necessarily imply evidence of absence. Indeed, if altruism and aggression are behaviors linked by kinship and one's perspective, then inclusive fitness theory should apply equally well to both behaviors.

The Kinship, Acceptance, and Rejection Model of Altruism and Aggression

Augmenting Hamilton's (1964) biologically based inclusive fitness theory with social processes, Webster (2008) proposed the Kinship, Acceptance, and Rejection Model of Altruism and Aggression (KARMAA; Figure 2). According to the KARMAA, kinship and kinship cues can play a pivotal role in explaining both altruism and aggression. For example, cues to kinship – such as cohabitation, physical resemblance, common geographic region, or sharing a surname – might not only promote altruism but also deter aggression. Similarly (but with the opposite effect) kinship insults – such as insinuating incest or sexual promiscuity regarding one's kin (e.g., calling someone or a member of their family a “bastard” or “motherfucker”) – might promote aggression.

Although the KARMAA proposes direct links between kinship cues and both altruism and aggression, these links are purportedly mediated or facilitated by proximate social processes broadly related to acceptance and rejection. For example, a positive kinship cue (e.g., sharing a surname or ethnogeographic heritage) may facilitate feelings of belongingness, social inclusion, and emotional closeness, or may foster a sense of ingroup identity. These social, more proximate factors may in turn facilitate more altruism or a greater likelihood of it. In contrast, a negative kinship cue (e.g., a kin-based insult) may facilitate feelings of rejection, ostracism, and social exclusion, or may foster an outgroup identity. These proximate social factors may consequently facilitate aggression. Thus, social processes such as acceptance/rejection may serve to mediate the direct links between positive/negative kinship cues and altruism/aggression.

Welfare trade-off ratio

Building on inclusive fitness theory (Hamilton, 1964) and human kinship detection (Lieberman et al., 2007), Tooby and Cosmides (2008; Tooby, Cosmides, Sell, Lieberman, & Sznycer, 2008) have also sought to link altruism and aggression via evolutionary theory using their welfare trade-off ratio (WTR) model. According to Tooby and Cosmides (2008), the WTR “regulates the extent to which the actor is intrinsically disposed to trade-off his or her own welfare against that of [another] individual” (p. 130). If actors – would-be altruists – know or believe via kin detection that they are related to the person in question, then they are more likely to behave altruistically toward that person. The WTR stresses the often zero-sum trade-off between choosing behaviors that are a cost or benefit to the self versus a cost or benefit to one or more others. This same trade-off can also affect decisions about whether or not to aggress actively (e.g., fight), which often carries serious risks and costs for

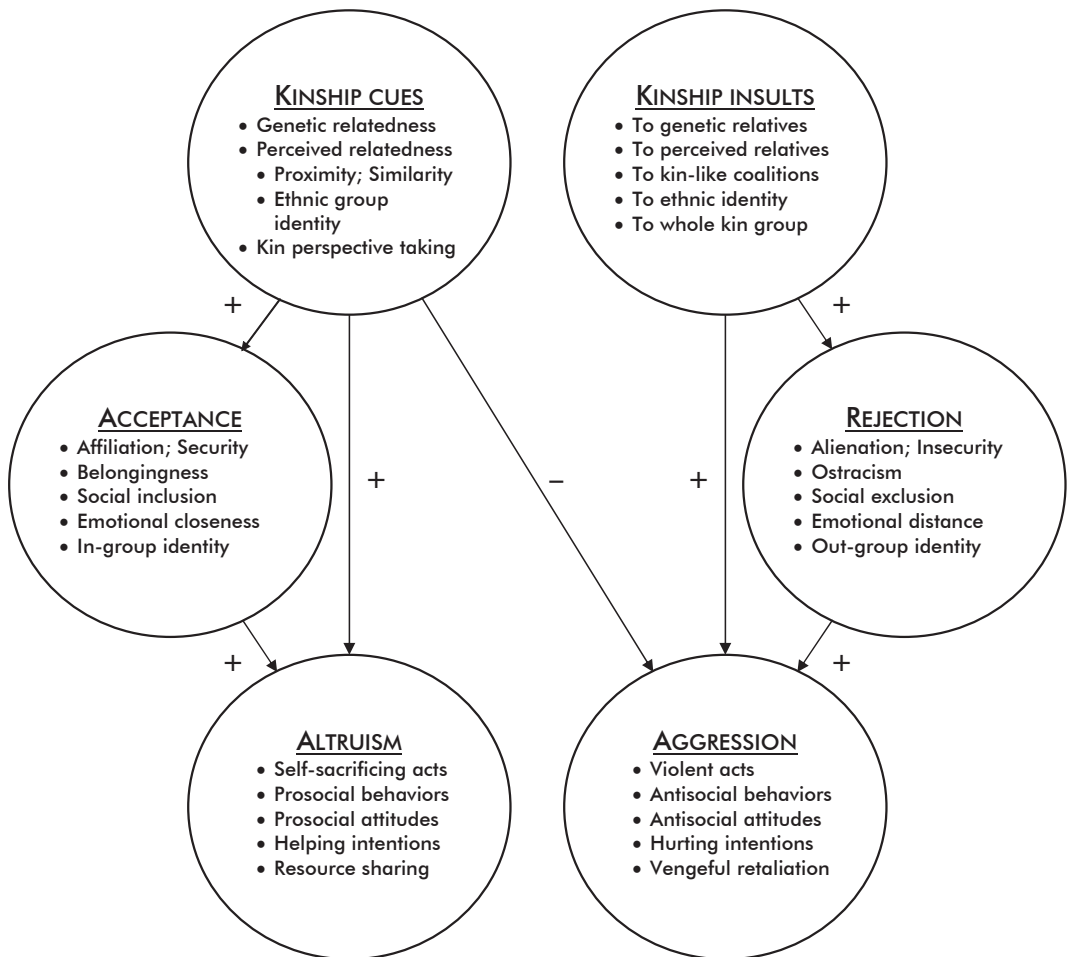


Figure 2 The Kinship, Acceptance, and Rejection Model of Altruism and Aggression (KARMAA; adapted from Webster, 2008).

the actor, or aggress passively (e.g., withhold resources), which is often less costly, at least in the short term. Tooby, Cosmides, and colleagues argue that the WTR acts as an adaptive cognitive system that helps people to regulate aggression-related emotions such as anger, and altruism-related emotions such as empathy.

A sociofunctional threat-based approach to intergroup prejudice

Although we have discussed kin-based relationships and their associations with altruism and aggression, we have so far neglected evolutionary perspectives on non-kin. That is, how can an evolutionary perspective explain altruism and aggression toward unrelated strangers, acquaintances, or friends? Let us begin by acknowledging that the most fundamental ingroup – and the first to form during human development – is the bond children share with their immediate kin. Indeed, during infancy and early childhood, our social network is synonymous with our kin network; our relatives are our primary, if not sole, ingroup. That is, our families are our first and typically most important ingroup. As we

grow older and develop childhood friendships and alliances, the same evolved psychological mechanisms (see Tooby & Cosmides, 1992) that we use for kin-based bonding are repurposed for forging coalitions with our cohorts. As we develop, we learn to generalize what we know about kinship and family (e.g., help your close relatives, especially if they help you) to friendship and groups (e.g., help your close friends, especially if they help you).

Building on this evolutionary perspective of groups, Cottrell and Neuberg (2005; Neuberg & Cottrell, 2006) proposed a sociofunctional threat-based approach to intergroup prejudice, which suggests that affective and behavioral reactions to members of other social groups may represent functionally-relevant responses to threats perceived from these other groups. More specifically, humans may have evolved psychological mechanisms that monitor their social environment for potential threats to their group's well-being (e.g., threats to group physical safety, physical health, values/morals, reciprocity-based exchange). Human ancestors who detected and responded appropriately to these threats would have gained more valuable benefits from social living than those who did not detect (and respond to) such threats. Threat detection, however, is just the first step. People must also respond with appropriate affective (e.g., fear, disgust), cognitive (e.g., ascription of stereotypes), and behavioral (e.g., aggression, avoidance) reactions that are focused on eliminating or minimizing the perceived threat. It is important to note that these reactions must be appropriate to the specific perceived threat. That is, different specific perceived threats to one's group require different affective, cognitive, and behavioral responses to the ostensible source of that threat. What it takes to respond effectively to a perceived threat to an ingroup's physical safety is likely different from what it takes to respond effectively to a perceived threat to an ingroup's physical health.

Although this sociofunctional approach has largely been used to understand negative reactions toward outgroup members (e.g., aggression; see Neuberg, Kenrick, & Schaller, 2010), it is valuable to note that this analysis could also help to explain more positive reactions to outgroup members (e.g., altruism). That is, just as people respond to perceived threats with functionally-relevant negative affective and behavioral reactions focused on reducing the threat, they might also respond to perceived opportunities – perhaps an outgroup that possesses a valuable resource or skill – with functionally-relevant *positive* affective and behavioral reactions focused on benefiting from the opportunity (e.g., establishing cooperative relations with this other group).

Kinship and the General Aggression Model

As mentioned previously, the General Aggression Model (GAM; Anderson & Bushman, 2002; DeWall et al., 2011; Figure 1) strives to integrate biological, personal, and social perspectives to better understand and predict aggressive intentions and behaviors. Conveniently for our purposes, the GAM dovetails well with a kinship perspective on aggression. Specifically, the GAM highlights the roles of environmental and biological modifiers in influencing aggressive traits and behaviors. For example, one person's genetic relatedness to another could affect both the person and situation pathways in the model (Figure 1), as well as being considered both a biological and environmental modifier. Indeed, even a person's situational appraisal and decision process would likely be moderated by information about kinship cues. For example, would you be more or less likely to aggress against someone who has insulted you if you learn that you share the same uncommon surname or were born in the same small town? Given this view, kinship can be seamlessly integrated into an augmented GAM.

Kinship, Altruism, and Aggression

Now that we have highlighted some of the key evolutionary perspectives on altruism and aggression, we next focus on kinships and provide an overview of the empirical findings supporting these theories. We begin this section by reviewing the links between kinship and altruism, continue by providing illustrative examples and summarizing the empirical research linking kinship and aggression, and conclude with some new and controversial speculation on the relativism of altruism and aggression, and how they can be viewed differently depending on one's perspective.

Kinship and altruism

The empirical evidence linking kinship and altruism is broad and substantial (for reviews see Burnstein, 2005; and Kurland & Gaulin, 2005). Although we simply do not have space to summarize this research while doing it justice, we can highlight a sample of findings that are representative of the kinship–altruism link. First, in the animal literature, some of the most influential studies involve ground squirrels, colloquially known as prairie dogs. Consistent with an inclusive fitness theory of altruism, ground squirrels were more likely to sound alarm calls – which alert nearby conspecifics of a predator (e.g., raptor, snake, human; a benefit to others), but often draw a predator's attention to the alarm caller (a cost to the self) – when they had close relatives nearby than when more distant relatives or non-kin were within earshot (Holmes & Sherman, 1982; Sherman, 1977, 1981). In other words, the altruistic act of warning others of a predator occurred when the genetic benefits to one's relatives outweighed the genetic costs to oneself.

Much like ground squirrels and other animals, humans also act altruistically as a function of relatedness. Research has shown that most people chose to help close kin more than distant kin (Essock-Vitale & McGuire, 1985), and that this effect is stronger in life-and-death situations than in everyday helping situations (Burnstein, Crandall, & Kitayama, 1994). Analyses of wills have also shown that people bequeath larger proportions of their estates to their close kin than to more distant kin or non-kin (Judge, 1995; Judge & Hrdy, 1992; Smith, Kish, & Crawford, 1987; Webster, Bryan, Crawford, McCarthy, & Cohen, 2008). Behavioral economics experiments that have simulated a will-writing experience have found similar results: people give larger proportions of money to their close relatives than to their more distant relatives (Webster, 2003, 2004).

Kinship and aggression

Compared to research on the kinship–altruism link, the scientific literature on the kinship–aggression link is sparse. From animal models, we know that when kin are threatened, other kin will usually aggress against the source of the threat to protect their targeted kin. For example, if a predator threatens a bear cub, its mother will nearly always aggress against the predator to protect her offspring. Simply put, threats to kin can – and often do – elicit aggression.

Although sparse, there is some evidence linking kinship cues with aggression in humans. First, anecdotal evidence abounds when considering verbal insults and name-calling. As mentioned earlier, one surefire way to draw someone's ire is to insult them (“asshole”), their kin (“your mother is ugly and your sister is a whore”), or their relationship to their kin (“bastard,” “motherfucker,” “son of a bitch”). Indeed, arguably the worst insults in the English language involve themes of incest, paternal uncertainty, and

sexual promiscuity – all of which are fundamentally connected to reproductive fitness. Second, empirical evidence comes from studies of families with step-parents. In families where the mother or father is a step-parent, the frequency and severity of child abuse and even homicide increase dramatically (Daly & Wilson, 1988, 1998). To be sure, most step-parents are *great* parents; however, when family violence *does* occur, it is far more likely in families with one or more step-parents than in families with both biological parents, on average.

Recent empirical research has shown that kinship insults aimed at degrading reproductive reputation (e.g., “slut,” “pussy”; versus social status insults) evoke aggressive responding in participants, but only when degree of relatedness between the participant and the target of the insult is high (Fitzgerald & Ketterer, 2011). In particular, participants were more likely to verbally aggress against an insulter when the target was the participant’s sibling. Insults directed at a more distant relative – a cousin – proved a much weaker call to arms, advancing kinship or kinship cues as a determining factor in aggressive action.

Relativity revisited: when altruism is aggression and aggression is altruism

When viewed through the lens of inclusive fitness, the difference between altruism and aggression can become blurred. This is especially true when we allow for some relativism regarding multiple perspectives on these behaviors. As noted previously, a mother bear that acts aggressively toward a predator to protect her cubs is simultaneously exhibiting an act of altruism (toward her cubs and from her perspective) and aggression (toward the predator and from its perspective). This example also extends to humans – parents will often do anything to protect their children, even if it means resorting to violence against a possible threat.

Humans, of course, also engage in group behaviors beyond the family sphere; we form mutually beneficial self-serving ingroups and are often suspicious of – and sometimes aggress against – outgroups. Although interacting groups are often nebulous and dynamic, the underlying social psychological calculus of ingroup/outgroup functioning is comparatively straightforward: help ingroup members, but do not help (or occasionally harm) outgroup members. In fact, considering extreme intergroup conflict such as warfare, helping one’s ingroup (e.g., assembling munitions in a factory) can be difficult to distinguish from harming one’s outgroup (e.g., dropping munitions on the enemy from a bomber). Similarly, paying federal taxes in the U.S. is – for better or worse – a simultaneous endorsement of altruistic and aggressive behavior. The cost, in economic terms, is as real as its consequences. For example, federal funds go to help Americans feed and shelter their less-fortunate ingroup members (e.g., Food Stamps, Housing and Urban Development), but also help them to protect their homeland, which could simultaneously be seen as act of aggression (especially when the theater of war is overseas). Indeed, perceptions and public opinion likely contributed to the name change of the former War Department (aggression toward the outgroup) to the Department of Defense (altruism toward the ingroup) in the U.S. But what about when the opposite occurs – when someone harms the ingroup or helps the outgroup?

What if, instead of helping our ingroup and hurting our outgroup, we instead chose the opposite: to hurt our ingroup or to help our outgroup. These behaviors are also curiously difficult to disentangle. In the English language, we often use the same set of words to describe both aggression toward our ingroup and altruism toward a rival outgroup (e.g., “betray,” “sabotage,” “traitor,” “treason,” “subvert,” “undermine”). For example,

Roman slaves' decision to open the Salarian Gate for the invading Visigoths caused the Sack of Rome in 410. Most Romans viewed their slaves' collective action as one of betrayal and sabotage – the slaves simultaneously helped their outgroup and harmed their ingroup. Most Romans, however, may have underestimated the extent to which their slaves identified with the relevant ingroup (i.e., Romans). Instead, the slaves may have identified more with the invading Visigoths, who could bring destructive change and possible liberation.

Further still, human societies often choose to punish both types of behavior (outgroup altruism and ingroup aggression) with some of the severest forms of punishment known (e.g., death, torture). This brings us to the related concept of altruistic punishment – that punishing members of the ingroup for reprehensible behavior is actually a form of altruism, because there is a cost to the individual punisher (e.g., the time and effort it takes to identify, incarcerate, or execute a wrongdoer) but a net benefit for the ingroup (Fehr & Gächter, 2002). Altruistic punishment helps to preserve ingroup cohesion. Without such punishment, group members might increasingly betray one another, desert their ranks, or defect to rival outgroups, leading to the eventual collapse or dissolution of the ingroup. Thus, altruistic punishment appears to be a necessary evil for preserving ingroup cohesion and avoiding ingroup dissent.

One limitation of our view of a kinship-based altruism–aggression link is that the analogy of these behaviors being “two sides of the same coin” is overly simplistic (hence the title's question mark). To be sure, our perspective is more nuanced. Specifically, we are making two related but distinct points about kinship and aggression. First, we argue that kinship – or cues related to it – can simultaneously increase helping and decrease harm directed toward kin. Second, we also argue that kinship – real or perceived – can cause an actor to help a relative by aggressing against another person wishing to harm that actor's relative. Although different, these points are complimentary; both serve to facilitate survival and the propagation of genes, and both serve as examples of the dynamic interplay linking kinship, altruism, and aggression.

New Directions for Future Research

How can future research in personality and social psychology benefit from taking an evolutionary, kinship-based perspective on altruism and aggression? And better still, what can we learn about altruism and aggression by viewing them as similar, perspective-dependent behaviors? In this section, we outline some potential avenues for advancing altruism–aggression research on three levels: intrapersonal, interpersonal, and intergroup.

Intrapersonal

Both altruism and aggression can be viewed as behavioral solutions to solve specific adaptive problems faced by our ancestors throughout our evolutionary history. Altruism functions to promote shared genes and familial bonding; aggression functions to promote survival in the face of threat. Both altruism and aggression may represent evolved psychological mechanisms (Tooby & Cosmides, 1992); that is, both behaviors appear to be hard-wired into our cognitive architecture. Given this cognitive angle, it is not surprising that much cutting-edge research on the evolution of altruism and aggression is being done using social cognition methods. For example, Ackerman et al. (2006) found that White Americans recall Whites' neutral faces better than Blacks' neutral faces; however, when threatening angry faces were used, participants recalled Blacks' faces better than

Whites' (an outgroup heterogeneity effect; see Judd & Park, 1988). Additionally, people are less likely to use race in social categorization in the presence of coalitional cues regarding affiliations (Kurzban, Tooby, & Cosmides, 2001). Similar conceptual frameworks on prejudice (Schaller & Conway, 2005; Schaller, Faulkner, Park, Neuberg, & Kenrick, 2004) combine both biological (fear of darkness; Schaller, Park, & Mueller, 2003) and social-evolutionary (culturally-shared stereotypes; Kenrick et al., 2002; Schaller, Conway, & Tanchuk, 2002) perspectives. Recent research has shown that even monkeys (rhesus macaques) can hold implicit attitudes that favor their ingroup or disfavor their outgroup – or both (Mahajan et al., 2011). We expect that future research on the intrapersonal nature of altruism and aggression – and the links between them – will be driven largely by cognitive research at the intrapersonal level. Specifically, we expect future studies to consider priming kinship cues by using participants' surnames or facial similarity (with computer-generated self–other morphs) in conjunction with manipulating group membership and perspective (ingroup versus outgroup) to assess peoples' behavioral decisions to help or harm. Finally, we acknowledge that there are lower-level, sub-intrapersonal processes relevant to our perspective on the altruism–aggression link that were beyond the scope of our review. Specifically, these involve reductionist levels of analyses involving psychophysiological and neuroscientific variables (e.g., hormones, neurotransmitters, neural networks) and theoretical perspectives (e.g., the perception–action model; Preston & de Wall, 2002).

Interpersonal

By definition, altruism and aggression are interpersonal behaviors – they are relational, requiring at least two people, often an actor (altruist or aggressor) and a target (the object of the altruistic or aggressive act). Indeed, dyadic examples of altruism and aggression abound. Nevertheless, altruism–aggression – where the act in question could be considered either or both depending on one's perspective – usually requires at least three people (e.g., mother bear, her cub, predator) or groups of people (e.g., Palestinian suicide bomber, their immediate family members who may receive payment, innocent Israeli bystanders). We recommend that social psychologists consider the interpersonal/relational causes and consequences of altruism and aggression in addition to the traditional intrapersonal ones (e.g., personality traits, self-esteem, narcissism, frustration, attitudes, social cognition). For example, dyadic and triadic models of domestic or intimate partner violence, which often involve a husband, wife, and possibly a young child or close relative, may provide a better understanding of how aggression and protective altruism are triggered, escalated, and diffused.

Intergroup

Arguably the most interesting – and potentially controversial – implication of our unified view of altruism and aggression is its application to intergroup processes. Although social psychology has excelled in explaining certain aspects of both intragroup and intergroup cooperation and conflict, it has yet to thoroughly integrate biological perspectives into most of its theories. For example, from inner-city gang violence to hostile corporate takeovers, intergroup behavior could potentially be reevaluated through the lens of our proposed evolutionary perspective. Specifically, street gangs and other crime syndicates are often focused on promoting the survival and prosperity of their fellow ingroup members. When the ingroup members cooperate with others in the organization, territory, money,

and influence typically increases. Often, however, rival gangs or crime syndicates often come into conflict with each other in part because each one is trying to help out their own members. Because resources such as territory are often finite, it changes the territory involved into a zero-sum game – one group's gains are by definition another group's losses (and *vice versa*). Thus, one cannot help a fellow ingroup member expand into new territory without indirectly hurting a rival outgroup. Similarly, regarding the ongoing Palestinian–Israeli conflict, because leaders are primarily accountable to their ingroup – not an outgroup – they will typically choose to serve the interests of the ingroup over most joint interests of both groups, particularly if the problem in question involves a zero-sum game (e.g., territory); however, this need not be necessary for non-zero-sum games (e.g., joint-ventures, collaborative economic endeavors, literal and figurative bridge-building across borders).

Conclusions

In this article, we have reviewed the literature on kinship-based altruism and aggression, and suggested that altruism and aggression can be viewed as two sides of the same coin, depending on context and perspective. We have supported this view with both illustrative and empirical evidence as well as theory (inclusive fitness theory, the KARMAA, the GAM, the WTR model, a sociofunctional threat-based approach to intergroup prejudice). Although a controversial assertion, we believe that personality and social psychologists should consider studying altruism and aggression simultaneously, especially when they involve interactions among kin or groups with which people identify (ingroup–outgroup dynamics). Indeed, from this perspective – controversial though it may be – we may be able to understand large-scale, intergroup aggression (e.g., warfare) as a collective effort of trying to protect and serve one's ingroup. That is, war may be as much about harming the outgroup as it is about helping the ingroup. We suspect that similar equivalencies may exist at both the intrapersonal and interpersonal levels. We hope that the present article will not only inspire interest in the link between kin-based altruism and aggression, but also spur broad discussions of integrating biological and social perspectives on prosocial and antisocial behavior at the intrapersonal, interpersonal, and intergroup levels.

Short Biographies

Gregory D. Webster (Ph.D., Colorado, 2006) is an assistant professor of psychology at the University of Florida, whose autobiography can be found in *American Psychologist*, 61(8), 871–4, doi:10.1037/0003-066X.61.8.871; his professional website is <http://webster.socialpsychology.org>.

Catherine Cottrell received a Ph.D. in social psychology from Arizona State University. Her primary research interests involve prejudice, stereotyping, and discrimination. She joined the faculty of New College of Florida in 2012.

Tatiana Orozco Schember is a graduate student and instructor in the Social Psychology program at the University of Florida. She earned her B.S. degree in psychology from Arizona State University in 2008. Her research focuses primarily on applying evolutionary psychological theory to prejudice, social influence, and prosocial behavior.

Benjamin Crosier's research aims to investigate the biopsychosocial antecedents of social network structure. Understanding what shapes network topology can inform a wide breadth of topics from health to defense. Currently obtaining his Ph.D. at the

University of Florida in social psychology under Gregory D. Webster, Benjamin currently holds a M.S. in social psychology from the University of Florida and a M.A in general psychology from SUNY New Paltz. His current projects evaluate how trait dispositions determine the position one occupies in a network, and attempt to frame the social interactions that form networks within evolutionary theory.

Laura Crysel's research is focused on the "dark side" of human nature. Current research includes the Dark Triad personality traits and *Schadenfreude* (happiness at another's misfortune). She holds a B.A. in Psychology from Wake Forest University and a Master of Science degree from the University of Florida, where she currently studies.

Amanda Gesselman received her Master's degree in Developmental Psychology and is now a graduate student in the Social Psychology program at the University of Florida. Broadly, her research takes an evolutionary approach to interpersonal relations. Her current research examines how people assess threatening information about current relationship partners, how specific types of information are weighed when judging potential partners, and how kinship cues affect aggressive responding.

Bonnie Le's research focuses on the factors that promote and prevent prosociality across different relationship contexts. Specifically, her work examines the individual differences, motivations, emotions, and physiological responses associated with prosociality within parent-child, romantic, and cross-race relationships. Bonnie holds B.A.s in psychology and integrative biology from the University of California, Berkeley, and a Master's in social psychology from the University of Florida. She is currently completing doctoral studies at the University of Toronto.

Endnote

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References

- Ackerman, J. M., Shapiro, J. R., Neuberg, S. L., Kenrick, D. T., Becker, D. V., Griskevicius, V. et al. (2006). They all look the same to me (unless they're angry): From out-group homogeneity to out-group heterogeneity. *Psychological Science*, *17*, 836–840.
- Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, *53*, 27–51.
- Batson, C. D., Dyck, J. L., Brant, J. R., Batson, J. G., Powell, A. L., McMaster, M. R. et al. (1988). Five studies testing two new egoistic alternatives to the empathy-altruism hypothesis. *Journal of Personality and Social Psychology*, *55*, 52–77.
- Burnstein, E. (2005). Altruism and genetic relatedness. In D. M. Buss (Ed.), *The Handbook of Evolutionary Psychology* (pp. 528–551). Hoboken, NJ: Wiley.
- Burnstein, E., Crandall, C., & Kitayama, S. (1994). Some neo-Darwinian decision rules for altruism: Weighing cues for inclusive fitness as a function of the biological importance of the decision. *Journal of Personality and Social Psychology*, *67*, 773–789.
- Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology*, *73*, 481–494.
- Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: A sociofunctional threat-based approach to "prejudice". *Journal of Personality and Social Psychology*, *88*, 770–789.
- Daly, M., Salmon, C., & Wilson, M. (1997). Kinship: The conceptual hole in psychological studies of social cognition and close relationships. In J. A. Simpson & D. T. Kenrick (Eds.), *Evolutionary Social Psychology* (pp. 265–296). Mahwah, NJ: Erlbaum.
- Daly, M., & Wilson, M. (1988). *Homicide*. Hawthorne, NY: Aldine.
- Daly, M., & Wilson, M. (1998). *The Truth About Cinderella: A Darwinian View of Parental Love*. New Haven, CT: Yale University Press.
- DeWall, C. N., Anderson, C. A., & Bushman, B. J. (2011). The General Aggression Model: Theoretical extensions to violence. *Psychology of Violence*, *1*, 245–258.

- Essock-Vitale, S. M., & McGuire, M. T. (1985). Women's lives viewed from an evolutionary perspective. II. Patterns of helping. *Ethology and Sociobiology*, **6**, 155–173.
- Fehr, E., & Gächter, S. (2002). Altruistic punishment in humans. *Nature*, **415**, 137–140.
- Fitzgerald, C. J., & Ketterer, H. L. (2011). Examining verbal and physical retaliation against kinship insults. *Violence and Victims*, **26**, 580–592.
- Hamilton, W. D. (1964). The genetical evolution of social behavior. I and II. *Journal of Theoretical Biology*, **7**, 1–52.
- Holmes, W. G., & Sherman, P. W. (1982). The ontogeny of kin recognition in two species of ground squirrels. *American Zoologist*, **22**, 491–517.
- Judd, C. M., & Park, B. (1988). Out-group homogeneity: Judgments of variability at the individual and group levels. *Journal of Personality and Social Psychology*, **54**, 778–788.
- Judge, D. S. (1995). American legacies and the variable life histories of women and men. *Human Nature*, **6**, 291–323.
- Judge, D. S., & Hrdy, S. B. (1992). Allocation of accumulated resources among close kin: Inheritance in Sacramento, California, 1890–1984. *Ethology and Sociobiology*, **13**, 495–522.
- Kenrick, D. T., Maner, J. K., Butner, J., Li, N. P., Becker, D. V., & Schaller, M. (2002). Dynamic evolutionary psychology: Mapping the domains of the new interactionist paradigm. *Personality and Social Psychology Review*, **6**, 347–356.
- Kenrick, D. T., Neuberg, S. L., & Cialdini, R. B. (2010). *Social Psychology: Goals in Interaction* (5th ed.). Boston, MA: Allyn & Bacon.
- Korchmaros, J. D., & Kenny, D. A. (2001). Emotional closeness as a mediator of the effect of genetic relatedness on altruism. *Psychological Science*, **12**, 262–265.
- Korchmaros, J. D., & Kenny, D. A. (2006). An evolutionary close-relationship model of helping. *Journal of Social and Personal Relationships*, **23**, 21–43.
- Kurland, J. A., & Gaulin, J. C. (2005). Cooperation and conflict among kin. In D. M. Buss (Ed.), *The Handbook of Evolutionary Psychology* (pp. 447–482). Hoboken, NJ: Wiley.
- Kurzban, R., Tooby, J., & Cosmides, L. (2001). Can race be erased? Coalitional computation and social categorization. *Proceedings of the National Academy of Sciences*, **98**, 15387–15392.
- Lieberman, D., Tooby, J., & Cosmides, L. (2007). The architecture of human kin detection. *Nature*, **445**, 727–731.
- Mahajan, N., Martinez, M. A., Gutierrez, N. L., Diesendruck, G., Banaji, M. R., & Santos, L. R. (2011). The evolution of intergroup bias: Perceptions and attitudes in rhesus macaques. *Journal of Personality and Social Psychology*, **100**, 387–405.
- Neuberg, S. L., & Cottrell, C. A. (2006). Evolutionary bases of prejudices. In M. Schaller, J. A. Simpson & D. T. Kenrick (Eds.), *Evolution and Social Psychology* (pp. 163–187). New York: Psychology Press.
- Neuberg, S. L., Kenrick, D. T., & Schaller, M. (2010). Evolutionary social psychology. In S. T. Fiske, D. T. Gilbert & G. Lindzey (Eds.), *Handbook of Social Psychology*, Vol. 2 (5th edn. pp. 761–796). Hoboken, NJ: Wiley.
- Preston, S. D., & de Wall, F. B. M. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, **25**, 1–72.
- Schaller, M., & Conway, L. G. III. (2005). The substance of prejudice: Biological- and social-evolutionary perspectives on cognition, culture, and the contents of stereotypical beliefs. In C. S. Crandall & M. Schaller (Eds.), *Social Psychology of Prejudice: Historical and Contemporary Issues* (pp. 145–160). Lawrence, KS: Lewinian Press.
- Schaller, M., Conway, L. G. III, & Tanchuk, T. L. (2002). Selective pressures on the once and future contents of ethnic stereotypes: Effects of the communicability of traits. *Journal of Personality and Social Psychology*, **82**, 861–877.
- Schaller, M., Faulkner, J., Park, J. H., Neuberg, S. L., & Kenrick, D. T. (2004). Impressions of danger influence impressions of people: An evolutionary perspective on individual and collective cognition. *Journal of Cultural and Evolutionary Psychology*, **2**, 231–247.
- Schaller, M., Park, J. H., & Mueller, A. (2003). Fear of the dark: Interactive effects of beliefs about danger and ambient darkness on ethnic stereotypes. *Personality and Social Psychology Bulletin*, **29**, 637–649.
- Sherman, P. W. (1977). Nepotism and the evolution of alarm calls. *Science*, **197**, 1246–1253.
- Sherman, P. W. (1981). Kinship, demography and Belding's ground squirrel nepotism. *Behavioral Ecology and Sociobiology*, **8**, 251–259.
- Smith, M. S., Kish, B. J., & Crawford, C. B. (1987). Inheritance of wealth as human kin investment. *Ethology and Sociobiology*, **8**, 171–182.
- Tooby, J., & Cosmides, L. (1992). Psychological foundations of culture. In J. Barkow, L. Cosmides & J. Tooby (Eds.), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture* (pp. 19–136). New York: Oxford University Press.
- Tooby, J., & Cosmides, L. (2008). The evolutionary psychology of the emotions and their relationship to internal regulatory variables. In M. Lewis, J. M. Haviland-Jones & L. F. Barrett (Eds.), *Handbook of Emotions* (3rd edn. pp. 114–137). New York: Guilford.
- Tooby, J., Cosmides, L., Sell, A., Lieberman, D., & Sznycer, D. (2008). Internal regulatory variables and the design of human motivation: A computational and evolutionary approach. In A. J. Elliot (Ed.) *Handbook of Approach and Avoidance Motivation* (pp. 251–271). Mahwah, NJ: Lawrence Erlbaum Associates.

- Webster, G. D. (2003). Prosocial behavior in families: Moderators of resource sharing. *Journal of Experimental Social Psychology*, **39**, 644–652.
- Webster, G. D. (2004). Human kin investment as a function of genetic relatedness and lineage. *Evolutionary Psychology*, **2**, 129–141.
- Webster, G. D. (2008). The kinship, acceptance, and rejection model of altruism and aggression (KARMAA): Implications for interpersonal and intergroup aggression. *Group Dynamics: Theory, Research, and Practice*, **12**, 27–38.
- Webster, G. D., Bryan, A., Crawford, C. B., McCarthy, L., & Cohen, B. H. (2008). Lineage, sex, and wealth as moderators of kin investment: Evidence from inheritances. *Human Nature*, **19**, 189–210.