

# The relation between mate value, entitlement, physical aggression, size and strength among a sample of young Indian men

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## Abstract

This study extends previous ones showing a link between direct aggression and size and strength among young men, which were informed by the evolutionary concept of resource holding power (RHP), using measures of size, strength, flexed bicep circumference and hand grip strength among a sample of young men from the Indian state of Mizoram. The study also examined the relation of these variables to reactive and proactive aggression, to entitlement to resources (related to the threatened egotism theory of aggression) and mate value (central to a modular theory of self-esteem and more broadly to sexual selection). The findings showed only a weak association between size and strength and direct aggression, which was also significantly correlated with entitlement and mate value, as predicted. Mate value also showed some association with size and strength. Reactive but not proactive aggression was linked with entitlement, but neither was associated with size or strength. In a regression analysis, controlling for age, mate value was the strongest predictor of direct aggression, but both weight (highly correlated with strength) and entitlement were marginally significant predictors independent of mate value. The findings provide support for the view that young males who view themselves as more attractive to women are more aggressive, independently of the impact on aggressiveness of RHP or entitlement to resources.

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**Keywords:** Physical aggression; Indirect aggression; Resource holding power; Mate value; Entitlement; Size and strength

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## 1. Introduction

Measures of aggression or dominance have been found to be associated with bodily size in preschool children (Pellegrini et al., 2007), 11-year-olds (Raine, Reynolds, Venables, & Mednick, 1997), early adolescents (Tremblay et al., 1998) and adults (Felson, 1996). These findings are consistent with the evolutionary game-theory concept of resource holding power (RHP; Parker, 1974), derived from game-theory models of the evolution of animal fighting (Archer & Huntingford, 1994; Parker, 1974). Individuals assess their retaliatory power in relation to that of their competitors, and if it is higher, they are less likely to withdraw from a physical confrontation. Throughout the animal kingdom, size provides a generally reliable indicator

of RHP (Archer, 1988), so that larger animals are less likely to withdraw and are more likely to win fights. Consistent with this, the association between size and direct aggression in humans may represent the lesser tendency of larger individuals to withdraw in the assessment phase of a conflict. In this way, high RHP individuals will come to have engaged in more physical aggression over a period of time than low RHP individuals. Similar reasoning is apparent in the concept of “coercive power” (Felson, 1996) associated with the social interactionist approach (Tedeschi & Felson, 1994). However, the concept of RHP has the advantage of linking the assessment process to that which occurs throughout the animal kingdom (Archer, 1988), and its evolutionary stability has been demonstrated in mathematical models of evolutionary change (Maynard Smith, 1982; Parker, 1976).

Sell (2006) explicitly used the concept of RHP in a study of the relation between several measures of lifting strength and aggression among samples of young American men. He found that not only was lifting strength (and its associated

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somatic measure, flexed bicep circumference) correlated with a history of fights ( $r=.46$ ) and proneness to anger ( $r=.36$ ), but it was also correlated with attitudinal measures, the first measuring the person's feelings that they were entitled to more resources than were others ( $r=.33$ ), the second approval of the use of interpersonal violence ( $r=.33$ ) and the third their approval of political violence ( $r=.27$ ). Archer and Thanzami (2007) extended parts of Sell's analysis to a sample of young men, from Aizawl in the North Eastern Indian state of Mizoram. They found that the frequency of physical aggression during the previous year was more strongly associated with weight ( $r=.40$ ) and height ( $r=.40$ ) than flexed bicep circumference ( $r=.27$ ) in this sample, although these lower correlations were still significant. Hand grip strength was used as an additional measure of strength, and the correlation between left hand grip strength and direct aggression was  $r=.25$ . Gallup, White, and Gallup (2007) studied hand grip strength in relation to somatic and self-report measures of physical attractiveness in a sample of American students, since grip strength is known to be associated with health-related measures. They included a measure of aggression in their study and found a small association between this and left hand grip strength, similar in magnitude to that in the study by Archer and Thanzami (2007). Aggression was not the main focus of this study, and their five-item measure contained only one item of physical aggression, the others representing mainly indirect forms, which were found to be unrelated to hand grip strength in our study (Archer & Thanzami, 2007).

Overall, these findings show a degree of generality in the association between size and strength and a history of physical aggression, at different ages (from 4 years to around puberty to adulthood) and nations (US, Canada, Mauritius and India), associations that can be understood in terms of the principle of RHP, described above. The first aim of the present study was to seek to replicate the association between direct aggression, size and strength in another sample of Indian men. We used the same measure of acts of direct and indirect aggression as in the previous study (Archer & Thanzami, 2007), but supplemented this with a measure that separates proactive and reactive aggression (Vitaro & Brendgen, 2005). Although these tend to be shown by the same individuals, they are conceptually different and may occur on different occasions. Reactive aggression is regarded as being more closely related to anger and impulsiveness in that it involves reactions to frustration or provocation. Proactive aggression is more concerned with gaining something, either status or a tangible gain. If larger stronger males show more physical aggression because they are more willing to compete for status and resources, there should be an association with this measure. Similarly, if such men are more readily provoked by challenges, they should also show more reactive aggression.

The second aim of the study was to seek to replicate the association between strength and entitlement to resources

found in the sample of young American men by Sell (2006). Sell used a self-report measure of entitlement designed for his study. However, the alpha reliability of this scale was relatively low, at .54 (Sell, 2006). Since there is a standard measure of entitlement available, in the form of the entitlement subscale of the Narcissism scale (Raskin & Terry, 1988), this was used in the present study. We also predicted a link between direct aggression and entitlement from the theory of Baumeister, Smart, and Boden (1996), which linked threatened high self-esteem with aggression. They argued that narcissists, who have grandiose, inflated views of themselves, will be particularly prone to aggressive actions, since they are likely to encounter ego threats and to be intolerant of them. Subsequent studies have demonstrated the link between trait narcissism and aggression, using laboratory measures (e.g., Bushman & Baumeister, 1998; Kirkpatrick, Waugh, Valencia, & Webster, 2002) and a self-report measure of the tendency to react aggressively to provoking events (Lawrence, 2006).

The process of sexual selection involves two aspects, intermale competition and female choice (Darwin, 1871). Successful men are therefore those who are either able to out-compete other men for access to resources and mates, or be more attractive to the opposite sex. In most social situations prior to the advent of societies with an effective rule of law, size and strength would have been an important component for competing successfully by engaging in physical aggression (Archer, 1994; Daly & Wilson, 1988; Eisner, 2003). The extent to which these features are related to the other aspect of sexual selection, attractiveness to women, is not immediately obvious. There are, however, several studies linking attractiveness to men's size and strength, suggesting that it provides an indicator of a man's physical condition, which is in turn linked to his competitive ability. Sell (2006) found that a composite measure of bodily strength was associated with reported number of sexual partners among American students. Likewise, Gallup et al. (2007) found a positive association between hand grip strength and reported number of sexual partners ( $r=.33$ ) and a negative correlation with the age of first intercourse. Fredrick and Haselton (2007) found that muscular men were more attractive to women than less muscular men, at least as short-term partners; muscular men also viewed themselves as more attractive to women and reported more sexual partners than did less muscular men. Hönekopp Rudolph, Beier, Liebert, and Müller (2007) found that an exercise-based measure of physical fitness correlated with bodily attractiveness, rated by young women, and more weakly with self-reported mating success, among a sample of young German men.

In the present study, we assessed whether a man's self-perceived attractiveness was associated with both his size and strength, and with his experience of direct physical aggression. We used the measure of self-perceived "mate value" (Apicella & Marlowe, 2007; Symons, 1992), designed by Williams (1999) and previously used in two evolutionary-based studies of self-esteem (Kirkpatrick et al.,

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