
Symposium SA-2
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Do size and strength matter? An application of the principle of Resource Holding Power to human aggression.

John Archer



The theme of this symposium is the application to human aggression of a principle derived from game theory models of animal conflicts, Resource Holding Power (RHP). If an animal is able to assess the fighting ability (the RHP) of its opponent prior to a possible fight, and the information obtained is used to decide whether or not to fight that opponent, this strategy confers a selective advantage over fighting without prior assessment, under a wide range of conditions. Larger size predicts which of two opponents are likely to withdraw from an aggressive encounter in animals ranging from the sea anemone to primates. Cues such as the presence and size of weapons, previous experience of fights with that opponent, and the numbers of allies, all influence an animal's decision whether or not to fight a particular opponent.

The principle of RHP assessment is one that would seem to apply to humans at an anecdotal level. In the present symposium, we present four systematic studies of the application of RHP to humans. Pellegrini reports a study showing that physical size is positively associated with dominance in 4 year old children; Sell shows that, among young men, lifting strength is positively correlated with a history of fights and a greater proneness to anger, a finding that has important implications for the causal basis of aggression. Sell also reports studies showing that humans can accurately detect fighting ability from a range of cues, both visual and auditory. These findings provide a new way of conceptualizing facial expressions of anger. Archer describes manipulations of RHP cues in scenarios depicting provoking situations, administered to young men and women. The findings partly support predictions from the concept of RHP assessment but also indicate an important limitation, and an interaction with face-saving and reputation in some circumstances.