

Fish win fights on strength of personality

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Scientists at the University of Exeter and Texas A&M University found that when fish fight over food, it is personality, rather than size, that determines whether they will be victorious. Credit: University of Exeter

When predicting the outcome of a fight, the big guy doesn't always win suggests new research on fish. Scientists at the University of Exeter and Texas A&M University found that when fish fight over food, it is

personality, rather than size, that determines whether they will be victorious. The findings suggest that when resources are in short supply personality traits such as aggression could be more important than strength when it comes to survival.

The study, published in the journal *Behavioral Ecology and Sociobiology*, found that small fish were able to do well in contests for [food](#) against larger fish provided they were aggressive. Regardless of their initial size, it was the fish that tended to have consistently aggressive behaviour - or personalities - that repeatedly won food and as a result put on weight.

Dr Alastair Wilson from Biosciences at the University of Exeter said: "We wondered if we were witnessing a form of Napoleon, or small man, syndrome. Certainly our study indicates that small fish with an aggressive [personality](#) are capable of defeating their larger, more passive counterparts when it comes to fights over food. The research suggests that personality can have far reaching implications for life and survival."

The sheephead swordtail fish (*Xiphophorus birchmanni*) fish were placed in pairs in a fish tank, food was added and their behaviour was captured on film. The feeding contest trials were carried out with both male and female [fish](#). The researchers found that while males regularly attacked their opponent to win the food, females were much less aggressive and rarely attacked.

In animals, personality is considered to be behaviour that is repeatedly observed under certain conditions. Major aspects of personality such as shyness or aggressiveness have previously been characterised and are thought to have important ecological significance. There is also evidence to suggest that certain aspects of personality can be inherited. Further work on whether winning food through aggression could ultimately improve reproductive success will shed light on the heritability of personality traits.

Provided by University of Exeter

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