

# Genes and environment interact in first graders to predict physical but not social aggression

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Physical aggression in children comes from their genes and the environment in which they grow up. Social aggression, such as spreading rumors or ignoring other children, has less to do with genetic factors and more with environmental factors.

One important environmental influence on children is friends. But while past studies have shown an association between physically aggressive friends and increased physical aggression in children and teens, few studies have looked at how socially aggressive friends affect children's social aggression, nor have they considered possible gene-environment transactions in these behaviors.

A new study by researchers at the University of Quebec at Montreal, Laval University, Concordia University, and the University of Montreal sought to determine whether the interaction between nature and nurture, that is, between children's genetic disposition to aggression and friends' aggression (social or physical), could help explain differences in children's own aggression. The study appears in the January/February 2008 issue of *Child Development*.

The researchers assessed approximately 400 pairs of 7-year-old twins, each of whom was asked to list up to three friends in their classroom. Teachers and peers evaluated the twins' and their friends' levels of social and physical aggression.

The researchers found that friends' physical aggression interacts with genetic liability to predict children's own physical aggression. Specifically, the genetic disposition to physical aggression is more likely to express itself when children are exposed to physically aggressive friends. No gene-environment interaction was found with respect to children's social aggression. Instead, friends' social aggression seems to be directly associated with children's own social aggression, independent of children's genetic disposition to this behavior.

The results also revealed that the effect of friends' aggression on children's aggression only seems to occur in the context of the same type of aggression. In other words, friends' physical aggression predicts children's physical but not their social aggression, whereas friends' social aggression predicts children's social but not their physical aggression.

Source: Society for Research in Child Development

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