

# Testosterone-fuelled infantile males might be a product of Mom's behaviour

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By comparing the testosterone levels of five-month old pairs of twins, both identical and non-identical, University of Montreal researchers were able to establish that testosterone levels in infancy are not inherited genetically but rather determined by environmental factors.

"Testosterone is a key hormone for the development of male reproductive organs, and it is also associated with [behavioural traits](#), such as [sexual behaviour](#) and aggression," said lead author Dr. Richard E. Tremblay of the university's Research Unit on Children's Psychosocial Maladjustment. "Our study is the largest to be undertaken with newborns, and our results contrast with the findings gained by scientists working with adolescents and adults, indicating that testosterone levels are inherited." The findings were presented in an article published in [Psychoneuroendocrinology](#) on May 7, 2012.

The researchers took saliva samples from 314 pairs of twins and measured the levels of testosterone. They then compared the similarity in testosterone levels between identical and fraternal twins to determine the contribution of genetic and environmental factors. Results indicated that differences in levels of testosterone were due mainly to environmental factors. "The study was not designed to specifically identify these environmental factors which could include a variety of environmental conditions, such as [maternal diet](#), maternal smoking, breastfeeding and parent-child interactions."

"Because our study suggests that [testosterone levels](#) in infants are

determined by the circumstances in which the child develops before and after birth, further studies will be needed to find out exactly what these influencing factors are and to what extent they change from birth to puberty," Tremblay said.

**More information:** The article Genetic and environmental contributions to saliva testosterone levels in male and female infant twins was published in an advanced, online edition of *Psychoneuroendocrinology* on May 7, 2012, by Dr. Richard E Tremblay of the University of Montreal's Research Unit on Children's Psychosocial Maladjustment.

Provided by University of Montreal

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