

How much sex is enough?

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Society has long debated the contrasting advantages of monogamy and promiscuity and, in western society at least, the long term benefits of monogamy have in general won out. However new research published in BioMed Central's open access journal *BMC Evolutionary Biology* shows that sperm from polygamous mice are better competitors in the race for fertilisation.

Dr Renée Firman at the Centre for Evolutionary Biology, University of Western Australia, has used house mice to show that [sperm](#) from rival males compete to fertilise females and that, over several generations, polygamy can select for mice who produce more sperm, with stronger motility, than monogamous males.

After 12 generations of competitive selection (polygamous) or relaxed selection (monogamous) female mice were mated twice, in succession, with males from both groups. While 53% of the litters had mixed paternity, 33% of litters were fathered by the polygamous males compared to 14% by monogamous males. Polygamous males retained this advantage regardless of whether they were mated first or second, demonstrating that the increased fitness applies to both offensive and defensive competition. The selection procedure had no obvious effect on male size or behaviour, nor did it affect female fertility.

So in the age old debate about the merits of [monogamy](#) versus polygamy it seems that, for male mice at least, the more partners you have the more fertile your offspring will be.

More information: Experimental evolution of sperm competitiveness in a Mammal, Renée C. Firman and Leigh W. Simmons, *BMC Evolutionary Biology* (in press).

Provided by BioMed Central

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