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When Fatherhood Should Stop?

Constance Holden's piece "The perils of late-age procreation" (Random Samples, [6 June, p. 1503](#)), about our recent finding that daughters of older fathers live shorter lives, has stimulated us to return to this problem and to reanalyze the data for different ranges of paternal ages at reproduction.

Our previous analysis, based on a multiple linear regression model, has demonstrated that in the range of paternal ages of 35 to 55 years, the mean loss in daughters' life span is 0.16 ± 0.06 years per each additional year of paternal age (sample size, $n = 2159$; Student's test, $t = 2.43$; $P = 0.02$). It turned out, however, that for the subgroup of younger fathers (35 to 45 years) the mean loss of daughters' life span is small (0.02 ± 0.12 years per each additional year of paternal age) and statistically insignificant ($n = 1651$; $t = 0.16$; $P = 0.87$), while for older fathers (45 to 55 years) this loss is particularly high (0.48 ± 0.21 years per each additional year of paternal age) and significant ($n = 598$; $t = 2.34$; $P = 0.02$).

These results are consistent with the general conclusion of James Crow on the nonlinear accelerating increase of mutation rates with paternal age ([1](#)) and could decrease the anxiety among the majority of fathers who reproduce before 45 years.

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Leonid A. Gavrilov
 A. N. Belozersky Institute,
 Moscow State University,
 Moscow 119899, Russia,

E-mail: leonid@gavrilov.genebee.msu.su

Natalia S. Gavrilova

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