b i o l o g y
letters

Reply to Adam R. Boyko 'Optimal age difference cannot differ between monogamous males and females: a comment on Fieder and Huber'

Martin Fieder, Susanne Huber and Fred L Bookstein

References	**This article cites 3 articles, 1 of which can be accessed free** http://rsbl.royalsocietypublishing.org/content/4/1/83.full.html#ref-list-1
	Article cited in: **http://rsbl.royalsocietypublishing.org/content/4/1/83.full.html#related-urls**
Email alerting service	Receive free email alerts when new articles cite this article - sign up in the box at the top right-hand corner of the article or click **here**

To subscribe to *Biol. Lett.* go to: **http://rsbl.royalsocietypublishing.org/subscriptions**

Invited reply

Reply to Adam R. Boyko 'Optimal age difference cannot differ between monogamous males and females: a comment on Fieder and Huber'

Our paper reported findings from two separate surveys, noting their consistency with evolutionary psychology (Buss 1989; Kenrick & Keefe 1992) and with each other. In a representative sample of 5623 Swedish men, fitness (net number of offspring) is maximized when the spouse is 6 years younger, and in another representative sample of 5999 Swedish women, fitness is maximized when the spouse is 4 years older. Boyko (2008) notes that if there had been only one study instead of two, a study involving data of married couples together, then only one age difference would have been estimated instead of two. Of course, he is correct, but no such spousal sample is available from Sweden. In fact, we know of no such sample of sufficient size anywhere in the developed world, which is available for research purposes like ours. With samples being very expensive, we are necessarily restricted to datasets gathered by the governments for administrative rather than research purposes.

The discrepancy of 2 years between the two independently computed sample optima could have various causes. 'Representativeness' by reason of age or fecundity might have differed well between the two sampling frames. But it is more probable that the difference between 4 and 6 years is not a signal, but instead simple sampling noise. Recall that what we reported was the age difference for 'optimum' fitness. This is computed by inspecting an empirical curve, one that is convex upward. But in both sexes there are only the smallest differences on the y-axis (offspring count) within the 'optimal' area on both sides of the maximum of the quadratic regression that is characterized by an even gradient of the curve. For instance, in the case of the male sample, at an optimal age difference of -5.92 years, the resulting offspring count is just 0.012 child higher than that at the age difference of -4 years. Curvature at the empirical female optimum is similarly shallow. Therefore, the published difference of 2 years is well within the ordinary confidence interval of this sample statistic for the actual data. We could certainly have estimated one number for the two sexes at the same time; perhaps we should have done so, but that would not change the origin of the data in two separate samples.

More importantly, the central point of the paper is not the difference in these optimal ages between the sexes, but the fact that each is quite obviously different from zero, and that these differences are consistent in sign (within sampling error) and in magnitude as well. We have thereby provided one fairly reliably sampled value in accordance with the results on the preferred age of partners in men and women reported for several cultures (Buss 1989). Swedish men whose mates are younger than themselves increase their offspring count up to a certain age difference, like Swedish women whose mates are older than themselves. Hence, age preferences for a partner do have consequences for reproduction; it follows that they may have been evolutionarily acquired.

Martin Fieder[1,*], Susanne Huber[2] and
Fred L. Bookstein[1]
[1]*Department of Anthropology, University of Vienna,
1090 Vienna, Austria*
[2]*Research Institute of Wildlife Ecology,
University of Veterinary Medicine Vienna,
Savoyenstrasse 1, 1160 Vienna, Austria*
martin.fieder@univie.ac.at

Boyko, A. R. 2008 Optimal age difference cannot differ between monogamous males and females: a comment on Fieder and Huber. *Biol. Lett.* **4**, 82. (doi:10.1098/rsbl.2007.0456)

Buss, D. M. 1989 Sex differences in human mate preferences: evolutionary hypotheses tested in 37 cultures. *Behav. Brain Sci.* **12**, 1–49.

Kenrick, D. T. & Keefe, R. C. 1992 Age preference in mates reflect sex differences in human reproductive strategies. *Behav. Brain Sci.* **15**, 75–133.