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No sexual antagonism in humans

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Divergent selection on, but no genetic conflict over, female and male timing and rate of reproduction in a human population

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The sexes often have different phenotypic optima for important life-history traits, and because of a largely shared genome this can lead to a conflict over trait expression. In mammals, the obligate costs of reproduction are higher for females, making reproductive timing and rate especially liable to conflict between the sexes. While studies from wild vertebrates support such sexual conflict, it remains unexplored in humans. We used a pedigreed human population from preindustrial Finland to estimate sexual conflict over age at first and last reproduction, reproductive lifespan and reproductive rate. We found that the phenotypic selection gradients differed between the sexes. We next established significant heritabilities in both sexes for all traits. All traits, except reproductive rate, showed strongly positive intersexual genetic correlations and were strongly genetically correlated with fitness in both sexes. Moreover, the genetic correlations with fitness were almost identical in men and women. For reproductive rate, the intersexual correlation and the correlation with fitness were weaker but again similar between the sexes. Thus, in this population, an apparent sexual conflict at the phenotypic level did not reflect an underlying genetic conflict over the studied reproductive traits. These findings emphasize the need for incorporating genetic perspectives into studies of human life-history evolution.

1. Introduction

The timing and rate of reproduction are important fitness determinants in many