Education, income and offspring count in men and women - evolutionary explanations hold true in modern societies.

Martin Fieder1, Susanne Huber2

1Department of Anthropology, University of Vienna, Vienna, Austria

2Research Institute of Wildlife Ecology, University of Veterinary Medicine, Vienna, Austria

Demographic data typically rely on offspring number of women. This may lead to blurring of the results, particularly if analysing the relation between offspring count and socio-economic status in modern societies. On basis of data from contemporary Sweden, we propose that sampling of offspring count of men and women as well as analysing the association among offspring count, income and education separately for men and women, leads to different results from many demographic studies.

We used a representative data set of 7000 Swedish men and 7000 Swedish women from the Total Population Register of the year 2000 obtained from Statistics Sweden. The sample has been matched by Statistics Sweden with the Multigeneration Register, Register of Population Changes, Register of Income and Wealth, and Register of Education. We show that in women, education and income are negatively associated with offspring count, whereas in men, a positive association among offspring count and income and education is found. We further find that the positive association among income, education and offspring number in men is primarily caused by a higher proportion of childless individuals found among men of low income and education, presumably as a result of lower marriage rate.

These findings are in accordance with evolutionary predictions on the relation of human reproduction and socio-economic status, where women are expected to choose mates of high socioeconomic status as they offer greater access to resources as compared with those of lower socioeconomic background (Buss 1999). Consequently, men of higher socioeconomic status should be preferred by women who, in turn, should adjust their reproductive decisions accordingly. The overall result of female mate preferences is a positive association between socioeconomic status and reproductive output in men as has long been found in traditional and pre-industrial (Borgerhoff-Mulder 1988, Cronk 1989, Voland 1990), but only recently in modern societies (Fieder et al. 2005, Fieder & Huber 2007, Hopcroft 2006, Weeden 2006).

Apart from the apparent difficulties of modern women to combine education and work with reproduction, from an evolutionary perspective, the negative association between income/education and offspring count in women may also be attributed to a life history strategy, predicting a trade-off between investment in human capital versus number of offspring and yielding an "optimum offspring number" (Mace, 2007). Accordingly, women increase their individual fitness by having fewer children yet investing more in each individual child via increased education and personal income. Empirical evidence for such a trade-off, however, is not clear in modern societies (Kaplan et al. 1995). In addition, women may also be victims of their evolutionary adaptations to prefer men of high socioeconomic status (Buss 1999) - particularly, successful professional women are known to be interested in the high

income of a potential husband (Wiederman 1993) - which may complicate finding an adequate spouse.

We conclude, that it is crucial for the understanding of fertility patterns in modern societies to survey offspring number of both men and women. We further conclude that evolutionary assumptions on human reproduction may be fundamental for the understanding of demographic developments in modern societies.

Acknowledgments:

Data Source: Statistics Sweden.

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