

## The course (of) (or) history of life?

We were delighted to see the recent special issue, “Theoretical Foundations of the Analysis of Fertility”, guest edited by Johannes Huinink, Jens Ehrhardt, and Martin Kohli in Demographic Research. As Huinink & Kohli suggest, in their paper “A life-course approach to fertility”, the time is ripe to view people’s fertility decisions through an integrative framework; one that encompasses not only individual decision-making processes and population-level institutional factors, but also the myriad environmental, historical and cultural factors that influence fertility. The authors propose that a comprehensive ‘life course theory’ would achieve this end, but express the opinion that, currently, no such theory exists.

Although we agree that there are very few studies that address all (or even some) of the above factors in a comprehensive fashion (and data availability may be the biggest hindrance in this respect), we would like to suggest that such a comprehensive theory does exist, or at least one that covers a large part of the theoretical concerns of the ‘life course’ approach, namely life *history* theory (e.g., Stearns 1992). As described by Mace (2014), in the same special issue, life history theory situates human reproductive and mortality schedules into a well-established and robust evolutionary framework, in ways that allow us to make direct comparisons with other species while continuing to recognise the unique features of human social life (Burger et al., 2011; Stulp & Barrett, in press). Central questions within this framework — such as when to mature and begin reproducing? How many offspring to produce and when? How much should parents invest in each offspring? (Stulp & Barrett, in press; Snopkowski & Kaplan, in press) — have all been addressed by (human) behavioural ecologists, and bear a striking similarity to those addressed in section two of Huinink & Kohli (2014).

A key concept within life history theory is the notion of trade-offs. An animal’s life history is a consequence of three biological processes that each compete for resources: bodily repair (or maintenance), growth (which can also include ‘growth of knowledge’), and reproduction. Investment in one domain inevitably decreases the amount of energy that can be invested in the other domains; that is, a trade-off has to be made. Among the most fundamental trade-offs are those between current growth/maintenance and reproduction, and current versus future reproduction (Stulp & Barrett, in press). Again, these well-established principles would seem to fit very well with the authors’ discussion of the ‘Interdependence of life domains’ and the ‘Impact of the past and anticipation of the future’.

Different fields of research may sometimes co-exist without much “cross-pollination” in terms of methods and ideas, and this may well be true for demography and human behavioural ecology. It is clear that the latter can, and has, benefited greatly from methodological advances within demography (here we echo the sentiments of Mace 2014), and we suggest that demography may well achieve reciprocal benefits by incorporating the insights of life history theory. As Stearns (1992) says: “no other field brings you closer to the underlying simplicities that unite and explain the diversity of living things and the complexities of their life cycles.” (p. 9)

Best wishes,  
Gert Stulp, London School of Hygiene and Tropical Medicine, and  
Louise Barrett, University of Lethbridge

## REFERENCES

Burger, O., DeLong, J. P., & Hamilton, M. J. (2011). Industrial energy use and the human life history. *Scientific Reports*, 1(56), 1–7.

Huinink, J., & Kohli, M. (2014). A life-course approach to fertility. *Demographic Research*, 30, 1293–1326.

Mace, R. (2014). When not to have another baby: An evolutionary approach to low fertility. *Demographic Research*, 30, 1074–1096.

Snopkowski, K., & Kaplan, H. (in press). A synthetic biosocial model of fertility transition: Testing the relative contribution of embodied capital theory, changing cultural norms, and women's labor force participation. *American Journal of Physical Anthropology*

Stearns, S. C. (1992). *The evolution of life histories*. Oxford: Oxford University Press.

Stulp, G. & Barrett, L. (in press). Fertility Theory: theory of life history evolution. *The International Encyclopedia of the Social and Behavioral Sciences*, Second Edition