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A multilevel event history analysis of the effects of grandmothers on child mortality in a historical German population

Krummhörn, Ostfriesland, 1720-1874

Jan Beise Eckart Voland

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#### Abstract

We analyzed data from the historic population of the Krummhörn (Ostfriesland, Germany, 1720-1874) to determine the effects of grandparents in general and grandmothers in particular on child mortality. Multilevel event-history models were used to test how the survival of grandparents in general influenced the survival of the children. Random effects were included in some models in order to take the potentially influential effect of unobserved heterogeneity into account. It could be shown that while maternal grandmothers indeed improved the child's survival, paternal grandmothers worsened it. Both grandfathers had no effect. These findings are not only in accordance with the assumptions of the "grandmother hypothesis" but also may be interpreted as hints for differential grandparental investment strategies.

Author's affiliation

Jan Beise

Max Planck Institute for Demographic Research, Germany Eckart Voland

Universität Gießen, Germany

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"evil mother-in-law", child mortality, Germany, grandmother hypothesis, grandparents, infant and child mortality, kin selection, Krummhörn, life history theory, menopause, multilevel event history models

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