

Research shows personality can predict fertility

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The reproductive success of both men and women is influenced by our personality traits, according to new research from the University of Sheffield.

The study, which was published yesterday (7 June 2010) in the [Proceedings of the National Academy of Sciences](#), found that [women](#) with higher levels of neuroticism and more extravert men, are likely to give birth to a larger number of children in societies with traditionally high birth rates.

The study also found evidence of a link between maternal [personality](#) traits and offspring's physical condition, as women with higher neuroticism levels were more likely to have children with a decreased body mass index (BMI), reflecting malnutrition.

[Personality traits](#) are increasingly being studied to understand individual-level determinants of fertility patterns, and how differences in personality can be maintained by [natural selection](#). Previous work has been carried out in modern Western populations, but the current research was conducted in a more traditional population, enabling the team to test how personality affects fertility rates in a 'natural environment' characterized by high birth rates.

The researchers gathered data from four villages in rural Senegal. They then investigated the effects of personality for both partners on the number and health of their offspring using the Big Five personality dimensions which psychologists consider to be the five fundamental personality traits present in all humans.

Women with above-average levels of neuroticism, prone to be anxious, depressive, and moody, had 12% more children than those with below average. This relationship was stronger amongst women with a higher social status. A negative association between maternal neuroticism and offspring's physical condition suggested that high neuroticism carries a cost for the families.

In the study of men, individuals with above average levels of extraversion, prone to be sociable and outgoing, had 14% more children than men with below average extraversion.

The research was conducted by Dr Virpi Lummaa, from the University of Sheffield's Department of Animal and Plant Sciences, Dr Alexandra Alvergne, from the Department of Anthropology, University College London and Markus Jokela from the University of Helsinki, Finland.

Dr Virpi Lummaa said: "Our results show that personality predicts family size differently in men and women, and those men with largest families have personality aspects different from the women with the largest families. Gaining understanding of such individual-level determinants of reproductive decisions helps in the current debate on the role of individual versus social factors in explaining recent fertility changes around the world."

More information: The paper, entitled 'Personality and reproductive success in a high-fertility human population' was published on 7 June 2010 in Volume 107, Issue 22 of *Proceedings of the National Academy of Sciences*: Alexandra Alvergne, Markus Jokela and Virpi Lummaa.

Provided by University of Sheffield

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