

The citizen and the embryo: Birth weight affects social trust

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How much does your baby weigh? All new parents are familiar with that question. Perhaps their reply is more important than we realize. Birth weight affects how much trust an individual will have in other people in

his adult life. Trust, in turn, is the glue that prevents society from falling apart. This phenomenon is at the center of new research from Aarhus School of Business and Social Sciences (Aarhus BSS) at Aarhus University, Denmark.

Low [birth weight](#) is associated with low levels of [social trust](#) in adulthood, while high birth weight is associated with high levels of trust. In other words, the citizen of the future is formed in the mother's womb. Michael Bang Petersen and Lene Aarøe, both from the Department of Political Science at Aarhus BSS, describe the correlation in a new article entitled "Birth Weight and Social Trust in Adulthood: Evidence for Early Calibration of Social Cognition." The article has just been published in the journal *Psychological Science*.

"Social trust is extremely important for society. In many ways, it is what keeps society together. When we sort our waste, when we vote, when we pay our taxes, it's all a function of how much trust we have in one another. Therefore, it's fascinating that we can trace trust all the way back to the [embryonic stage](#). It helps us understand why some people involve themselves more than others in society, and why some are less involved," Michael Bang Petersen said.

In one of the researchers' studies, a large number of respondents were asked if they believed that "a person cannot be too careful when dealing with other individuals" or if "most people can be trusted." Responses that reflected a low level of trust tended to correlate with low birth weight. The correlation remained even when controlling for genetic and environmental factors as measured by the birth weight of siblings. Siblings share [family environment](#) and, on average, 50 percent of the genes. If the correlation between [low birth weight](#) and low trust remains even after taking genetics and family environment into account, it supports the idea that factors linked to the embryonic stage have an impact on [adult life](#). The researchers found exactly that to be the case.

The two scientists, who have carried out their studies over the past four years, were inspired by the fact that researchers often look to childhood for explanations of adult behavior. They decided to go one step further in showing that even the time before birth can be decisive for the development of the individual.

"A lot of earlier research suggests that experiences in early childhood affect how you react psychologically as an adult. We wanted to investigate if experiences in the embryonic stage also have an impact on psychological patterns in adulthood," said Petersen.

The research from Aarhus University is an example of one of the most innovative fields in current [political science](#), which combines traditional methods with tools from, for example, evolutionary biology in order to reach new insights. It highlights how our DNA, the result of millions of years of evolution, continues to condition certain forms of behavior even in the high-tech societies of the modern age.

"Our findings match findings in disciplines such as biology and psychology which have shown, on the one hand, that women's ability to care for their children is highly dependent on the amount of social support they receive from their surroundings, and, on the other hand, have demonstrated that children are very much influenced by signals from the environment about the kind of world we're living in, and whether it's a cold and uncaring place, or a safe one," said Lene Aarøe.

The new findings could serve as an argument for ensuring safe and ample material conditions for women during pregnancy. More importantly, they represent an instance of basic research which adds to our understanding of man and his role in modern society, and helps us appreciate the factors that decide how we interact with each other. Who feels a sense of belonging, and who feels detached? Who wants to contribute to the community, and who sees less of a reason to do his

share? These are quite fundamental questions.

"Social trust is at the very core of modern society and shapes how citizens interact. By achieving a better understanding of the factors that lead to social trust we also get closer to understanding the basic elements that ensure social coherence," said Aarøe.

Provided by Aarhus University

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