

Shy wild boars are sometimes better mothers

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With sufficient food, shy wild boar mothers will raise more young. Credit: Sebastian Vetter/Vetmeduni Vienna

It has been known for years that personality traits of animals, such as aggressiveness, risk-taking, curiosity or sociality, may have far-reaching consequences for reproduction and survival. However, separating the effect of personality from other factors, such as environmental

conditions, is not easy. If the natural environment of the animals is subjected to strong fluctuations, the different personalities may have different consequences depending on the prevailing situation.

For the first time, an extensive study by Sebastian Vetter and his colleagues at the Research Institute of Wildlife Ecology at Vetmeduni Vienna looked at the effect that personality of wild boar mothers has on the number of offspring raised. Wild boars are among the most reproductive of the large wild animals in Central Europe. Even very young females less than one year old can become pregnant if they achieve a certain body weight in the autumn. Their favourite food are acorns an

d beech nuts. These are not always available in the same quantity, however. In some years, so-called mast years, the trees produce many, in others only few fruits. The natural fluctuations were simulated in a trial with a wild board population kept in a breeding enclosure at semi-natural conditions with variable feeding regimes.

Football for wild boars

To determine the personality of the [wild boars](#), a number of objects that were previously unknown to the animals were placed in the enclosure: a football, a basket or a plastic animal, for example. The research team then analysed videotaped recordings to study the reactions of the individual animals to the nine objects. The behaviour of the females to each other was also determined. These observations were used to calculate a personality index for each animal that was later compared with the number of young raised by that female.

Variable conditions affect the success of the life history strategy

The study revealed that the personality of the females in interaction with the food availability directly affected the survival of the offspring. If enough food was available for all, the more careful mothers raised more offspring than the more aggressive and risk-taking females. The greater success of shy females in offspring rearing in good mast years might be explained by their more careful behaviour and high level of maternal care. "It is possible that the offspring of less explorative females grow up in a protected environment that may afford them higher survival possibilities. Wild boars are often aggressive with conspecifics and the young are therefore especially dependent on the protection of their mother. This effect, however, is no longer given when food availability is scarce," explains the study's first author, Sebastian Vetter. Vetter and his team, under none of the tested conditions, found a benefit for aggressive or bold females with regard to the success of offspring rearing; there is, however, a correlation between the personality of the animals and their juvenile [body mass](#). Although cause and effect have not yet been fully explained, the researchers can imagine that more aggressive offspring have an advantage over their more timid siblings in the competition for teats and would therefore reach a higher weight earlier on.

Advantages early in life remain for a lifetime

Such an advantage early in life can have far-reaching consequences. Vetter and his colleagues showed a strong correlation between body mass at a young age and the reproductive success of the animals at adulthood. This may point to the so-called silver spoon effect: If an animal grows up under good conditions, this may have a lifelong benefit; it grows up with a silver spoon in its mouth, so to speak. "These results confirm our expectations that [personality](#) strongly affects life history strategy of the females. Especially interesting is that the juvenile body mass has far-reaching consequences for [females](#) and directly influences the reproductive success of the adult animals. Even more so than the body

mass of the animals at the time of actual reproduction," says Vetter.

Evolutionary selection of personality differences

The different personalities have a positive or negative effect depending on environmental factors. Personality traits that are useful in one situation may present a disadvantage in another. The natural selection of different features most probably depends upon many different conditions. "In [animals](#) such as the wild boar, which experience extremely different [environmental conditions](#) from year to year, this variability also contributes to the maintenance of different personalities in a population," says Vetter in conclusion.

More information: Sebastian G. Vetter et al. Shy is sometimes better: personality and juvenile body mass affect adult reproductive success in wild boars, *Sus scrofa*, *Animal Behaviour* (2016). [DOI: 10.1016/j.anbehav.2016.03.026](#)

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