

Adult friendships can triumph over childhood trauma, even in baboons

May 17 2023



Two female baboons in Amboseli, Kenya, groom together, a baboon's way of social bonding. Credit: Susan C. Alberts, Duke University

Decades of research show that experiencing traumatic things as a child—such as having an alcoholic parent or growing up in a tumultuous

home—puts you at risk for poorer health and survival later in life.

But mounting evidence suggests that forging strong social relationships can help mitigate these effects. And not just for people, but for our primate cousins, too.

Drawing on 36 years of data, a new study of nearly 200 [baboons](#) in southern Kenya finds that adversity early in life can take years off their lifespan, but strong social bonds with other baboons in adulthood can help get them back.

"It's like the saying from the King James Apocrypha, 'a faithful friend is the medicine of life,'" said senior author Susan Alberts, professor of biology and evolutionary anthropology at Duke University.

Baboons who had challenging childhoods were able to reclaim two years of life expectancy by forming strong friendships.

The findings appear May 17 in the journal *Science Advances*.

Research has consistently found that those who go through more bad experiences growing up—things like abuse, neglect, a parent with mental illness—are [more likely](#) to face an early grave down the line. But figuring out how one leads to the other has been harder to do.

While the downsides of a tough upbringing are well-documented, "the underlying mechanisms have been more difficult to pinpoint," Alberts said.

One limitation of prior research was the reliance on people's self-reported memories of their past, which can be subjective and imprecise.

Alberts said that's where long-term research on wild primates—which

share more than 90% of our DNA—comes in. Since 1971, researchers have followed individual baboons near Amboseli National Park in Kenya on a near-daily basis, noting which animals they socialized with and how they fared over their lifetimes as part of the Amboseli Baboon Research Project.

In the new study, the researchers wanted to know: How does adversity early in life ultimately lead to premature death, even years later?

One hypothesis is that trauma survivors often grow up to have troubled relationships as adults, and the resulting lack of social support, in turn, is what cuts their life short. But the new findings paint a different picture of the causal pathway involved in baboons, and offer some hope.

In the study, the researchers looked at how early life experiences and adult social connections affected long-term survival in 199 female baboons that were closely monitored at Amboseli between 1983 and 2019.

Baboons don't grow up in broken or dysfunctional homes per se, but they're no strangers to hardship. For each female, the team tallied up her exposure to six potential sources of early adversity. They looked at whether she had a low-ranking or socially isolated mother, or whether her mother died before she reached maturity. They also noted whether she was born in a drought year, born into a large group or had a sibling close in age, which could mean more competition for resources or maternal attention.

The results show that, for baboons growing up in the semi-arid and unpredictable landscape of Amboseli, stressful experiences are common. Of the baboons in the study, 75% suffered through at least one stressor, and 33% had two or more.

The analyses also confirmed [previous findings](#) that the higher a female's tally of hardships, the shorter her lifespan. But this was not just because baboons who experienced more upheaval early in life were more socially isolated as adults, which they were, Alberts said.

Rather, the researchers were able to show that 90% of the dip in survival was due to the direct effects of early adversity, and not to the weakened social bonds that they inevitably experience in adulthood.

The effects add up. Each additional hardship translated to 1.4 years of life lost, no matter how strong or weak their bonds with other baboons. Baboons who went through four bad experiences growing up died nearly 5.6 years earlier than those who faced none—a big drop given that the average female baboon only lives to about 18.

But this doesn't mean baboons with an unfortunate start in life are sentenced to a life cut short.

"Females who have bad early lives are not doomed," said first author Elizabeth Lange, assistant professor at SUNY Oswego.

Far from it. The researchers also discovered that baboons who formed stronger social bonds—measured as how often they groomed with their closest friends—added 2.2 years to their lives, no matter what they had faced when they were younger.

Baboons whose mothers died before they reached maturity, but then forged strong friendships in adulthood, were best able to bounce back.

The flip side is also true, Alberts said. "Strong social bonds can mitigate the effects of early life adversity, but conversely, weak social bonds can magnify it."

Researchers can't say yet if the results are generalizable to humans. But if so, the researchers say, it suggests that [early intervention](#) isn't the only effective way to overcome the effects of childhood trauma.

"We found that both early life adversity and adult social interactions affect survival independently," Lange said. "That means that interventions that occur throughout the lifespan could improve survival."

In other words, focusing on adults, particularly their ability to build and maintain relationships, can help too.

"If you did have early life adversity, whatever you do, try to make friends," Alberts said.

More information: Elizabeth Lange et al, Early life adversity and adult social relationships have independent effects on survival in a wild primate, *Science Advances* (2023). DOI: [10.1126/sciadv.ade7172](https://doi.org/10.1126/sciadv.ade7172).
www.science.org/doi/10.1126/sciadv.ade7172

Provided by Duke University

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