

RESEARCH | Findings startling considering that those at the top also experience stress, which should suppress immunity

# It pays to be powerful, even among baboons

Researchers say top-ranking primates are less likely to fall sick and if they do they recover much more rapidly than those at the bottom

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**T**op-ranking male baboons in the Amboseli National Park may very well understand the unfolding leadership competition as the country heads towards the General Election.

Being at the top, as they have found out, is a most rewarding experience — socially, materially and, surprisingly, even regarding their health, as revealed by a new study.

For human leaders, there are obvious material benefits such as enhanced security, first class travelling and a five-star life but a new study of the Amboseli baboons says leaders are less likely to fall sick and if they do they recover much more rapidly than their lower-ranked subjects.

Researchers from the Institute of Primate Research, University of Nairobi, and other colleagues reached this conclusion after observing male baboons in the Amboseli for 27 years keenly recording illness and injuries and how the animals recovered.

## Experience high stress

In a study published on Monday in the *Proceedings of the National Academy of Sciences*, the team found that high-ranking males were less likely to become ill. Besides, they recovered faster from injuries and illnesses than low-ranking males.

"The finding is somewhat surprising, given that top-ranked males also experience high stress, which should suppress immune systems," says the lead researcher, Dr Beth Archie of the University of Notre Dame in the US.

The study brings into focus the question of who is more stressed between those at the top and those at the bottom of the ladder.

"In humans and animals, it has always been a big debate whether the stress of being on top is better or worse than the stress of being on the bottom," says Dr Archie in the statement.

According to the researchers' findings, both positions experience stress but it appears that several factors protect those at the top from the negative effects of stress.

The study was trying to identify the biological mechanisms that may be conferring health benefits to high-ranking members of society.

## Fight off disease

According to the funders of the project, the US National Science Foundation, it has long been known that humans have such benefits, "but it took meticulous long-term research on the baboon society to tease out the specific mechanisms".

Baboons live in social groups with the alpha male being the top-ranking figure, a position that calls for several expenses, which, according to the researchers, could compromise the animal's capacity to fight off diseases.

For instance, the study says a high-ranking male is more likely to engage in energetically expensive mate guarding episodes, where he has to keep other males from mating with his partner.

"These mate-guarding episodes, called 'consortships', may last from a few hours to a few days, during which time male feeding is compromised."

Despite this, the males were still found to be able to ward off diseases or recover quickly from an illness, indicating that biology may have ways of rewarding a leader so that they can work or endure much more than their



## OBSERVATION

### Experts monitored injuries and illness

From 1982 to 2009, the researchers observed 633 cases of naturally occurring injuries and illnesses in 166 adult male baboons living in groups.

Injuries that were observed included cuts or slashes, puncture wounds and scrapes. Illnesses were characterised by digestive problems, persistent respiratory problems or signs of weakness or lethargy. Observations of injuries were much more frequent than observations of illnesses.

The Amboseli Baboon Project dates back to 1963.

27

Number of years taken by experts to record illness and injuries in baboons

66

In the baboon community, the top-ranking male lives a very stressful life

Stan Kivai, Institute of Primate Research

low-ranking subjects.

According to Mr Stan Kivai of the Institute of Primate Research in Nairobi, who was involved in the study, the new finding goes a long way in explaining how the body deals with responsibility-related stress in animals, including human beings.

"In the baboon community, the top-ranking male lives a very stressful life and it is surprising that instead of being kept down by illness he is, in fact, doing better than those with less responsibility," Mr Kivai told the *Nation* yesterday.

This new knowledge, he said, may throw some light in the management of stress and stress-related health problems in human beings.

It also challenges the popular dictum that "the rich also cry", he added.

A baboon at the Institute of Primate Research in Karen, Nairobi.

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