

The neurobiological basis of leadership (Update)

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Low responsibility aversion is an important determinant of the decision to lead.
Credit: Giuseppe Parente

Leaders are more willing to take responsibility for making decisions that affect the welfare of others. In a new study, researchers at the University of Zurich identified the cognitive and neurobiological processes that influence whether someone is more likely to take on leadership or to delegate decision-making.

Parents, company bosses and army generals, as well as teachers and heads of state, all have to make decisions that affect not only themselves, but also influence the welfare of others. Sometimes, the consequences will be borne by individuals, but sometimes by whole organizations or even countries.

Researchers from the Department of Economics investigated what distinguishes people with high leadership abilities. In the study, which has just been published in the journal *Science*, they identify a common [decision](#) process that may characterize followers: Responsibility aversion, or the unwillingness to make decisions that also affect others.

Controlled experiments and brain imaging

In the study, leaders of groups could either make a decision themselves or delegate it to the group. A distinction was drawn between "self" trials, in which the decision only affected the decision-makers themselves, and "group" trials, in which there were consequences for the whole group. The neurobiological processes taking place in the brains of the participants as they were making the decisions were examined using [functional magnetic resonance](#) imaging (fMRI).

The scientists tested several common intuitive beliefs, such as the notion that individuals who are less afraid of potential losses or taking risks, or who like being in control, will be more willing to take on responsibility for others. These characteristics, however, did not explain the differing extent of responsibility aversion found in the study participants. Instead, they found that responsibility aversion was driven by a greater need for certainty about the best course of action when the decision also had an effect on others. This shift in the need for certainty was particularly pronounced in people with a strong aversion to responsibility.

"Because this framework highlights the change in the amount of

certainty required to make a decision, and not the individual's general tendency for assuming control, it can account for many different leadership types," says lead author Micah Edelson. "These can include authoritarian leaders who make most decisions themselves, and egalitarian leaders who frequently seek a group consensus."

More information: Computational and neurobiological foundations of leadership decisions. *Science*: August 2, 2018. [DOI: 10.1126/science.aat0036](https://doi.org/10.1126/science.aat0036)

Provided by University of Zurich

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